



Gothic, CO (GTH161)

2014 CASTNET Annual Network Plan

August 6, 2014

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1. Network Overview

The Clean Air Status and Trends Network (CASTNET) is a long-term monitoring network designed to measure acidic pollutants and ambient ozone concentrations in rural areas. CASTNET is managed collaboratively by the Environmental Protection Agency – Clean Air Markets Division (EPA), the National Park Service – Air Resources Division (NPS), and the Bureau of Land Management – Wyoming State office (BLM). In addition to EPA, NPS, and BLM, numerous other participants including tribes, other federal agencies, States, private land owners, and universities provide network support. The EPA contractor, AMEC Environment & Infrastructure (AMEC), operates the EPA-sponsored sites while the NPS and BLM contractor, Air Resource Specialists, Inc. (ARS), operates the remaining sites. An overview of the CASTNET monitoring program can be found here: <http://epa.gov/castnet/javaweb/docs/CASTNET_Factsheet_2013.pdf>. Each CASTNET site measures weekly concentrations of SO₂, SO₄²⁻, HNO₃, NO₃⁻, NH₄⁺, Cl⁻ and the base cations using a 3-stage filter pack. In addition, most CASTNET sites measure ambient ozone concentrations. All CASTNET ozone monitors meet the siting criteria as specified within 40 CFR Part 58 Appendices D and E. These ozone monitors collect hourly measurements on a continuous basis for the entire year, at a sampling height of 10 meters, utilizing daily one-point QC checks. Additional information regarding detailed siting criteria, monitoring objectives, site types, and other relevant parameters for each monitoring site per the requirements of 40 CFR Part 58.10(b) may be found in Appendix A.

As of May 2014, 91 CASTNET sites measure weekly concentrations of sulfur and nitrogen species and base cations using a 3-stage filter pack. Eighty CASTNET sites collect ambient O₃ concentrations and 29 measure hourly meteorological parameters. CASTNET also measures NO_y, SO₂, and CO at select sites. To ensure consistency across the network, EPA and NPS operate collocated sites, ROM206/ROM406, respectively, at Rocky Mountain National Park, Colorado. Data are routinely compared to identify any biases in the measurements. EPA submits O₃ data from ROM206 to EPA's Air Quality System (AQS) database, but the data are identified as non-regulatory as these data are used for quality assurance (QA) purposes. In addition to the regulatory O₃ monitors, EPA operates a non-regulatory O₃ analyzer above the tree canopy (23.5 meters (m)) at the Howland AmeriFlux site (HOW191, ME). The HOW191 O₃ monitor does not meet the siting criteria for a regulatory monitor, so these data are not submitted to AQS. CASTNET QA is maintained through an independent audit program supported by Environmental Engineering & Measurement Services, Inc. (EE&MS). EE&MS performs annual Performance Evaluations (PE) at every CASTNET O₃ site unless a State or EPA Regional Office performs this annual audit. EE&MS also performs a Technical Systems Audit (TSA) at every CASTNET site every other year. RTI International performs the facility TSA at both the EPA and NPS/BLM contractor field sites and laboratories.

In FY 2011, EPA upgraded the CASTNET O₃ analyzers to Thermo 49Is, installed on-site transfer standards, and updated the Quality Assurance/Quality Control (QA/QC) procedures at all EPA-sponsored sites to comply with the requirements in 40 Code of Federal Regulations (CFR) Part 58. This upgrade improved the overall quality of data, reliability of the analyzers, and comparability of the data with other regulatory monitoring networks (e.g., State and Local Air Monitoring Sites (SLAMS)).

CASTNET data are used to calculate design values with the first 3-year collection period of 2011 through 2013 for all sites where data completeness requirements are met. The CASTNET program follows QA/QC procedures and schedules to meet the regulatory requirements detailed in Appendix B. The procedures in this annual network plan originate from the requirements placed on States for SLAMS per guidance in 40 CFR Part 58.10, but adjusted to encompass a federally-operated national monitoring network.

2. Ozone Data

CASTNET monitors measure ambient O₃ concentrations at 10 meters for the entire year encompassing the ozone season (Appendix C). CASTNET submits ambient concentrations in near real time to AIRNow Tech <www.airnowtech.org> and posts to the CASTNET website daily <<http://epa.gov/castnet/javaweb/index.html>>. AMEC and ARS submit the hourly O₃ concentrations to AQS on a monthly basis and daily 1-point QC results on a quarterly basis. BLM displays O₃ data from their O₃ monitors on their website <<http://www.blmwarms.net/>>.

Following guidance in 40 CFR Part 58.15, CASTNET site managers submit their annual data certification letter, including the AQS Data Certification Report (AMP600) to the EPA Office of Air Quality Planning and Standards (OAQPS) by May 1st of each year. EPA, NPS, and BLM rely on States to indicate potential exceptional events impacting CASTNET O₃ data. As detailed in 40 CFR Part 50.14, States have until July 1st of the following calendar year to flag any O₃ data for review through the Exceptional Events Rule <<http://www.epa.gov/ttn/analysis/exevents.htm>>. If O₃ data have potentially been impacted by an exceptional event, please contact Timothy Sharac (sharac.timothy@epa.gov) for EPA-sponsored CASTNET sites or Jessica Ward (jward@air-resource.com) for NPS- or BLM-sponsored CASTNET sites. According to the Exceptional Events Rule, State agencies have the responsibility to demonstrate to their EPA Regional Office that an exceptional event occurred. The following information is required when a State requests review of O₃ data under the Exceptional Events Rule:

- date/time range of incident,
- type of exceptional event, and
- CASTNET site(s)

Exceptional event types and their associated AQS qualifier codes are listed at the following website: <<https://aqs.epa.gov/aqsweb/codes/data/QualifierCodes.html>>.

CASTNET uses the monitoring quality objectives shown in Appendix B to ensure that the highest quality data are being submitted to AQS. QA objectives include frequency of measurements or audits, calibration schedules, and acceptance criteria for QC checks. This appendix was reproduced from the Quality Assurance Handbook for Air Pollution Measurement Systems QA Handbook Volume II, Appendix D Revision 0, May 2013 <<http://www.epa.gov/ttnamti1/files/ambient/pm25/qa/QA-Handbook-Vol-II.pdf>>.

In addition to the daily zero/precision/span (z/p/s) QC checks described in Appendix B, the CASTNET contractors perform semi-annual audits at each CASTNET site. During these semi-annual audits, CASTNET contractors audit the on-site analyzer and reverify the on-site transfer standard, calibrate the on-site analyzer to the traveling transfer standard (Level 2) as needed, and verify the data logger and the shelter temperature probe using National Institute of Standards and Technology (NIST) traceable standards. All on-site O₃ transfer standards at CASTNET sites are NIST-traceable at Level 3. CASTNET contractors use audit results to perform the final validation on the hourly O₃ data and submit semi-annual audits to the sponsoring agency. A flow chart diagram of the certification process is detailed in Appendix D.

3. Network Audit Requirements

The network audit requirements for 40 CFR Part 58 compliance are summarized in Table 1 below. CASTNET managers provide EPA Regional Offices with the facility and field TSA schedules at least 6 months in advance to ensure EPA Regional Offices have sufficient time to arrange for travel if they choose to attend the audit. The EPA Regional Office contacts are listed in Appendix E.

Table 1 Summary of 40 CFR Part 58 audit requirements

Required Audits	Audits Performed By	Site Selection	Audit Frequency	Audit Results Submitted	Funding Organization
Ozone Performance Audit (PE)	Independent auditor + EPA/NPS/BLM + EPA Regional Offices/States EPA Regional Office staff may visit site along with auditor	EPA/NPS/BLM	Annually (All CASTNET sites)	AQS EPA/NPS/BLM	EPA → independent auditor
National Performance Audit Program (NPAP)	OAQPS will coordinate with the EPA Regional Offices	OAQPS	20% of the sites each year	AQS	EPA → OAQPS → EPA Regional Office

Technical System Audits (TSA) Field Audit	Independent auditor	EPA/NPS/BLM	10% of the network each year	EPA/NPS/BLM OAQPS	EPA → independent auditor
Technical System Audits (TSA) Facilities Audit	3 rd party auditor	EPA/NPS/BLM	Each facility every 3 years	EPA/NPS/BLM contractor AQS	EPA (Base Funding) NPS/BLM (same facility)

4. Daily Quality Control Checks

The CASTNET contractors perform nightly automated z/p/s scans (0, 60, and 225 ppb, respectively), but can also run additional scans manually and/or remotely through the data logger to troubleshoot any problems. A summary of the daily verification calibrations is included in Appendix B. Three additional audit points at 40, 90, and 150 ppb are verified during the Sunday multi-point check. Audit results are updated on the CASTNET website daily.

5. Performance Evaluations (PE)

The CASTNET auditor performs annual PEs in accordance with EPA’s *Quality Assurance Handbook for Air Pollution Measurement Systems: Volume II - Ambient Air Specific Methods, 40 CFR Parts 53 and Parts 58 Revisions to Ambient Air Monitoring Regulations: Final Rule* and submits these results to AQS on a quarterly basis. The verification of the O₃ analyzer during the PE audit requires that the zero/span be within 2% of the full scale of the best fit linear line. Per the memorandum sent by OAQPS in February 2011, the auditor selects target concentration values among the ten audit levels <<http://www.epa.gov/ttn/airs/airsaqs/memos/expanded%20audit.pdf>>. A minimum of three audit levels that represent routine concentrations at the monitoring site are required (see Table 2 for acceptable audit ranges). The lowest two audit levels must be within ±1.5 ppb or a 15% difference, whichever is greater, to meet the acceptance criteria. Levels 3-10 must be within 15% to meet the acceptance criteria. The target values must bracket 85% of a site’s concentration levels.

Table 2 Audit Levels for Performance Evaluations (PE)

Audit Level	Concentration Range, ppm	Acceptance Criteria
1	0.004 – 0.0059	±1.5 ppb or ±15%, whichever is greater
2	0.006 – 0.019	±1.5 ppb or ±15%, whichever is greater
3	0.020 – 0.039	±15%
4	0.040 – 0.069	±15%
5	0.070 – 0.089	±15%
6	0.090 – 0.119	±15%
7	0.120 – 0.139	±15%
8	0.140 – 0.169	±15%
9	0.170 – 0.189	±15%
10	0.190 - 0.259	±15%

Table from US EPA OAQPS dated Feb 17, 2011; “Guidance on Statistics for Use at Audit Levels 1 and 2 of the Expanded List of Audit Levels for Annual Performance Evaluation for SO₂, NO₂, O₃, and CO as Described in 40 CFR Part 58 Appendix A Section 3.2.2”

The proposed PE and TSA audit schedule for CASTNET sites is shown in Table 3 below. The CASTNET independent auditor uses auditing equipment that is NIST-certified at least twice per year. The CASTNET independent auditor performs a PE audit at each site annually and performs a field TSA which includes flow, meteorological sensors, and related parameters every other year. States may perform PE audits if they coordinate with the sponsoring agency, site supervisor, and independent auditor as explained in the third-party CASTNET audit document <http://www.epa.gov/castnet/javaweb/ozone/Third_Party_Audits.pdf>.

Table 3 PE and Field TSA Schedule* (Page 1 of 2)

SITE ID	AQS ID	Site Name	State	EPA Rgn	Audit Type Even Years	Audit Month Even Years	Audit Type Odd Years	Audit Month Odd Years
ACA416	230090103	Acadia NP	ME	1	TSA	October	PE	September
ABT147	090159991	Abington	CT	1	TSA	October	PE	September
ASH135	230039991	Ashland	ME	1	TSA	September	PE	September
WST109	330099991	Woodstock	NH	1	TSA	October	PE	September
WSP144	340219991	Wash. Crossing	NJ	2	PE	October	TSA	October
HWF187	120619991	Huntington Wildlife Forest	NY	2	TSA	September	PE	September
CTH110	361099991	Connecticut Hill	NY	2	TSA	September	PE	November
ARE128	420019991	Arendtsville	PA	3	TSA	November	PE	October
BEL116	240339991	Beltsville	MD	3	TSA	November	PE	October
BWR139	240199991	Blackwater NWR	MD	3	PE	November	TSA	October
CDR119	540219991	Cedar Creek	WV	3	PE	October	TSA	November
KEF112	201619991	Kane Exp. Forest	PA	3	TSA	October	PE	November
LRL117	421119991	Laurel Hill	PA	3	PE	October	TSA	November
MKG113	420859991	M.K. Goddard	PA	3	TSA	October	PE	November
PAR107	540939991	Parsons	WV	3	PE	October	TSA	November
PED108	511479991	Prince Edward	VA	3	PE	September	TSA	September
PSU106	420279991	Penn State	PA	3	TSA	November	PE	October
SHN418	511130003	Shenandoah NP - Big Meadows	VA	3	PE	November	TSA	November
VPI120	510719991	Horton Station	VA	3	PE	September	TSA	September
GRS420	470090101	Great Smoky NP - Look Rock	TN	4	PE	October	TSA	September
CVL151	281619991	Coffeerville	MS	4	PE	March	TSA	February
SND152	010499991	Sand Mountain	AL	4	TSA	February	PE	February
BFT142	370319991	Beaufort	NC	4	PE	November	TSA	October
GAS153	132319991	Georgia Station	GA	4	TSA	February	PE	February
ESP127	470419991	Edgar Evins	TN	4	TSA	April	PE	April
IRL141	060719002	Indian River Lagoon	FL	4	TSA	February	PE	February
MCK131	212299991	Mackville	KY	4	PE	March	TSA	March
MCK231	212299991	Mackville Collocated	KY	4	PE	March	TSA	March
MAC426	210610501	Mammoth Cave NP	KY	4	PE	March	TSA	March
CDZ171	212219991	Cadiz	KY	4	PE	March	TSA	March
SPD111	470259991	Speedwell	TN	4	TSA	March	PE	April
CKT136	211759991	Crockett	KY	4	PE	April	TSA	March
CND125	371239991	Candor	NC	4	PE	November	TSA	October
PNF126	370119991	Cranberry	NC	4	TSA	March	PE	March
COW137	371139991	Coweeta	NC	4	TSA	March	PE	March
SUM156	120779991	Sumatra	FL	4	TSA	February	PE	February
UVL124	261579991	Unionville	MI	5	TSA	August	PE	August
VIN140	180839991	Vincennes	IN	5	PE	June	TSA	August
DCP114	390479991	Deer Creek	OH	5	PE	April	TSA	April
ANA115	261619991	Ann Arbor	MI	5	TSA	August	PE	August
OXF122	390179991	Oxford	OH	5	PE	April	TSA	April

Table 3 PE and Field TSA Schedule* (Page 2 of 2)

SITE ID	AQS ID	Site Name	State	EPA Rgn	Audit Type Even Years	Audit Month Even Years	Audit Type Odd Years	Audit Month Odd Years
ALH157	171199991	Alhambra	IL	5	PE	June	TSA	August
PRK134	551199991	Perkinstown	WI	5	PE	August	TSA	August
QAK172	391219991	Quaker City	OH	5	PE	April	TSA	April
SAL133	181699991	Salamonie Reservoir	IN	5	TSA	August	PE	August
VOY413	271370034	Voyageurs NP	MN	5	PE	August	TSA	August
BVL130	170191001	Bondville	IL	5	PE	August	TSA	August
STK138	170859991	Stockton	IL	5	PE	June	TSA	August
HOX148	360319991	Hoxeyville	MI	5	TSA	August	PE	August
CHE185	400019009	Cherokee Nation	OK	6	PE	February	TSA	March
PAL190	483819991	Palo Duro	TX	6	PE	February	TSA	March
CAD150	050199991	Caddo Valley	AR	6	PE	February	TSA	February
ALC188	483739991	Alabama-Coushatta	TX	6	PE	March	TSA	February
BBE401	480430101	Big Bend NP	TX	6	PE	March	TSA	March
SAN189	311079991	Santee Sioux	NE	7	PE	July	TSA	June
ROM206	080699991	Rocky Mtn NP Collocated	CO	8	PE	June	TSA	June
ROM406	080690007	Rocky Mtn NP	CO	8	PE	June	TSA	June
PND165	560359991	Pinedale	WY	8	PE	August	TSA	June
NEC602	560450003	Newcastle	WY	8	PE	June	TSA	June
MEV405	080830101	Mesa Verde NP	CO	8	TSA	April	PE	April
GTH161	080519991	Gothic	CO	8	PE	June	TSA	June
GLR468	300298001	Glacier NP	MT	8	TSA	June	PE	June
DIN431	490471002	Dinosaur NM	UT	8	TSA	July	PE	July
CNT169	560019991	Centennial	WY	8	PE	June	TSA	June
CAN407	490370101	Canyonlands NP	UT	8	TSA	April	PE	April
BAS601	560030002	Basin	WY	8	PE	June	TSA	June
YEL408	560391011	Yellowstone NP	WY	8	PE	June	TSA	May
WNC429	460330132	Wind Cave NP	SD	8	PE	September	TSA	July
THR422	380070002	Theodore Roosevelt NP	ND	8	PE	September	TSA	July
LAV410	060893003	Lassen Volcanic NP	CA	9	PE	May	TSA	May
JOT403	420479991	Joshua Tree NP	CA	9	TSA	May	PE	April
GRC474	040058001	Grand Canyon NP	AZ	9	TSA	April	PE	April
YOS404	060430003	Yosemite NP - Turtleback Dome	CA	9	PE	May	TSA	May
PIN414	060690003	Pinnacles NM	CA	9	PE	May	TSA	April
GRB411	320330101	Great Basin NP	NV	9	TSA	May	PE	April
CHA467	040038001	Chiricahua NM	AZ	9	TSA	April	PE	April
PET427	040170119	Petrified Forest	AZ	9	TSA	April	PE	April
SEK430	061070009	Sequoia NP - Ash Mountain	CA	9	PE	May	TSA	May
DEN417	020680003	Denali NP	AK	10	TSA	July	PE	June

*See Appendix H for CBSA and CSA Codes for each CASTNET site

6. Field TSA

The CASTNET independent auditor performs field TSAs every other year at each CASTNET site (with or without O₃). The purpose of these audits is to provide an independent assessment of the site, the equipment performance, and the proficiency of the site operator. The auditor verifies that filter pack flow, the O₃ analyzer, and the meteorological sensors meet the criteria listed in Appendix B. The auditor also completes a PE for O₃ in addition to field TSAs when performed. The auditor performs through-the-probe (TTP) checks to verify there are no line losses within the system and documents whether any objects or pollutant sources are violating the CASTNET siting criteria; see the CASTNET Quality Assurance Project Plan (QAPP) for siting criteria at <<http://java.epa.gov/castnet/documents.do>>. During the field TSA, the auditor discusses any issues related to equipment, siting criteria, or operator handling with the operator and/or site supervisor. The CASTNET independent auditor submits audit results to the site supervisor, site operator, site funding agency, and CASTNET contractor following the audit. A summary of these audit results are available in a quarterly report and posted to the CASTNET website under “Quality Assurance” at <<http://java.epa.gov/castnet/documents.do>>.

The independent auditor sends TSA announcement letters to the contractor, site operator and site sponsor describing the purpose of the site visit to the site operator 2-4 weeks prior to field TSA to ensure all parties involved are prepared. If, and when, travel funds permit, an EPA, NPS or BLM representative may be present at the field TSA. CASTNET staff coordinate with States and EPA Regional Offices to provide six months notice prior to the field TSAs and their participation in the field TSAs is encouraged. The EPA Regional Office contacts are listed in Appendix E. The proposed schedule for 2014 is shown in Table 3. It is required that at least ten percent of all CASTNET sites have a field TSA completed each year. CASTNET performs field TSAs at fifty percent of the network sites each year to ensure network-wide consistency in the data, exceeding the ten percent requirement for regulatory monitors.

7. National Performance Audit Program (NPAP)

The EPA Clean Air Markets Division (CAMD) coordinates with OAQPS, EPA Regional Offices (listed in Appendix E), and the Environmental Services Assistance Team (ESAT) to fulfill the requirements under the NPAP. It is required that each network complete NPAP audits at 20% of the sites each year. OAQPS is responsible for selecting the sites to audit, where special priority is given to those sites with design values near the ozone NAAQS. The NPAP auditor is responsible for submitting the audit results to AQS. The purpose of the NPAP is to assess the proficiency of the monitoring organization. The audits are performed through the probe using a NIST-traceable certified gas, which is validated at least quarterly. The auditor selects 3-4 known target concentrations to determine the accuracy of the on-site ozone analyzer. The acceptable ranges can be found in 40 CFR Part 58, Appendix A, Section 3.2.2.1.

Table 4 NPAP Audit History for 2011-2015 Period (as of May 2014)

EPA Region	Audited	Total Sites	Completed (%)	Scheduled for 2014	Scheduled Completion for 2014 (%)
1	5	5	100	0	100
2	3	3	100	0	100
3	3	12	25	4	58
4	0	17	0	7	41
5	4	13	31	4	62
6	5	5	100	0	100
7	0	1	0	1	100
8	0	13	0	13	100
9	3	9	33	3	67
10	0	1	0	1	100

8. Facilities TSA

CASTNET uses a 3rd party auditor to conduct the facilities portion of the TSA at the contractor’s facilities once every three years at both the AMEC and ARS laboratories. CASTNET staff are present at the facility audit when travel funds are

available. CASTNET staff provide the date of the scheduled audit to the EPA Regional Offices at least six months prior to the visit. The purpose of the facility TSA is to provide a qualitative appraisal of the total measurement system. Site planning, organization, documentation and operation are evaluated to ensure that good QA/QC practices are being applied throughout the monitoring program. An outline of the facility TSA is available in Appendix F. RTI performed the facility TSAs at AMEC, Inc. in Gainesville, FL in 2012 and at ARS, Inc. in Fort Collins, CO in 2013. The facility TSA consists of an assessment of the staff, facilities, data and document control, and the quality control programs. Results, findings, and the responses to the findings can be found on the CASTNET/Ozone webpage <<http://epa.gov/castnet/javaweb/ozone.html>>.

9. Annual Monitoring Network Plans and Network Assessment

CASTNET staff prepare an annual CASTNET (EPA, NPS and BLM-sponsored sites) monitoring network plan for public review. The network plan focuses on the ozone component of CASTNET and addresses the monitoring requirements of 40 CFR 58.10(b). EPA, NPS, and BLM consult with OAQPS and applicable EPA Regional Offices ahead of adding or discontinuing O₃ monitors in accordance with 40 CFR 58.14 and any changes are included in the CASTNET annual network plan. CASTNET staff collect additional comments on the CASTNET annual network plan by sending draft copies to the National Association of Clean Air Agencies (NACAA), the Association of Air Pollution Control Agencies (AAPCA), and through OAQPS’ monitoring list-serve. CASTNET staff submit the plan and any comments received during the inspection period to OAQPS and all EPA Regional Office contacts. CASTNET staff contact States directly if these States use a CASTNET monitor in place of a State-operated ozone monitor (e.g., SLAMS) to ensure their participation in the planning process. CASTNET staff submit a final version of the annual network plan to the EPA CASTNET ozone webpage <<http://epa.gov/castnet/javaweb/ozone.html>> and OAQPS’ AMTIC webpage <<http://www.epa.gov/ttn/amtic/plans.html>>. The schedule for these activities is outlined in Table 5. The Division Director or a designee at the EPA’s Clean Air Markets Division approves this plan with input from the public by July 1. OAQPS provides comments within 120 days on any plans proposing changes to the O₃ network, and the final plan is posted on the CASTNET and TTN/AMTIC webpages.

Table 5 Network Plan Schedule

Date	Network Plan Steps
March 30 th	Final ozone data certified and submitted to AQS
May 1 st	Submit network plan to NPS/BLM for review
May 21 st	Distribute network plan to OAQPS, OAQPS list-serve, EPA Regional Offices, NACAA, AAPCA and posted for public review on the CASTNET webpage
June 21 st	Deadline for public comments to network plan
July 1 st	CASTNET staff complete response to public comments and distribute final version of plan
October 31 st	OAQPS/Lead EPA Regional Office review plan and provide approval

EPA will complete a network assessment every 5 years in accordance with 40 CFR 58.10(d). The network assessment shall be submitted to the CAMD Division Director, OAQPS, and all EPA Regional Office contacts. The next assessment is due July 1, 2015, and every 5 years thereafter.

Some States include CASTNET sites in their network plan to fulfill their requirement for rural monitoring sites. These States should notify the CASTNET agency sponsor that the State will be using the CASTNET site in their plan so that CASTNET staff and EPA Regional Offices can be included in any discussions related to changes that may be made to the site.

10. Ozone Network Modification

As of May 2014, the following network modifications have occurred:

Ahead of the 2014 O₃ season, CASTNET added one regulatory monitoring site, Dinosaur National Monument, UT (DIN431 490471002) operated by NPS.

Following the 2013 O₃ season, Mt. Rainier National Park (MOR409 530531010), WA CASTNET site was discontinued due to funding constraints.

11. Data Reporting and Certification

CASTNET staff submit applicable ambient and quality assurance data to AQS within 90 days after the end of each quarterly reporting period. CASTNET complies with the annual air monitoring certification requirements in accordance with 40 CFR 58.15-16. EPA, NPS, and BLM certify CASTNET ambient O₃ and quality assurance data by May 1 for the prior calendar year for their respective CASTNET sites and submit the data to OAQPS for review.

Appendix A. Detailed Site Information (Page 1 of 79)

CASTNET O₃ monitors meet the siting criteria as specified within 40 CFR Part 58 Appendices D and E. Following guidance from 40 CFR Part 58.10b, the following detailed information required for each CASTNET monitor is listed in the following pages.

The following parameters are the same at all CASTNET sites:

- Groundcover is natural vegetation
- Current sampling frequency is continuous
- Sampling season is 01/01 – 12/31
- Probe height is 10 meters
- Unrestricted airflow is 360 degrees
- Probe material is Teflon^(R)
- Frequency of one-point QC check is daily

Parameters required by Part 58.10b, but not available include:

- Traffic count (AADT)
- Distance from obstructions (m)
- Residence time for reactive gases (sec)

Appendix A. Detailed Site Information (Page 2 of 79)

AQS ID	01-049-9991
CASTNET ID	SND152
Site Name	Sand Mountain
GPS Coordinates	34.289001, -85.970065
Street Address	Sand Mountain Alabama Agricultural Experiment Station, Crossville, AL 35962
County	DeKalb
Distance to Roadway	> 100 M
CBSA Name	Fort Payne, AL Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	05-MAR-14

Appendix A. Detailed Site Information (Page 3 of 79)

AQS ID	02-068-0003
CASTNET ID	DEN417
Site Name	Denali NP
GPS Coordinates	63.7232, -148.9676
Street Address	Denali National Park
County	Denali
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Unknown
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Neighborhood
Reporting Agency	National Park Service
Start Date	01-JAN-95
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	15-JUN-13

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AQS ID	04-003-8001
CASTNET ID	CHA467
Site Name	Chiricahua NM
GPS Coordinates	32.009405, -109.389058
Street Address	Chiricahua National Monument
County	Cochise
Distance to Roadway	> 100 M
CBSA Name	Sierra Vista-Douglas, AZ Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-JUL-89
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	01-APR-13

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AQS ID	04-005-8001
CASTNET ID	GRC474
Site Name	Grand Canyon NP
GPS Coordinates	36.058642, -112.183575
Street Address	Grand Canyon National Park, W Rim Drive
County	Coconino
Distance to Roadway	> 100 M
CBSA Name	Flagstaff, AZ Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-JUL-89
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	04-APR-13

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AQS ID	04-017-0119
CASTNET ID	PET427
Site Name	Petrified Forest
GPS Coordinates	34.822508, -109.892485
Street Address	Petrified Forest NP, Near Old Sw Entrance On Old Route 180
County	Navajo
Distance to Roadway	> 100 M
CBSA Name	Show Low, AZ Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-OCT-02
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	02-APR-13

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AQS ID	05-019-9991
CASTNET ID	CAD150
Site Name	Caddo Valley
GPS Coordinates	34.179278, -93.098755
Street Address	Lower Lake Recreation Area, Caddo Valley, Ar 71923
County	Clark
Distance to Roadway	> 100 M
CBSA Name	Arkadelphia, AR Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	25-FEB-14

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AQS ID	06-043-0003
CASTNET ID	YOS404
Site Name	Yosemite NP - Turtleback Dome
GPS Coordinates	37.713251, -119.706196
Street Address	Turtleback Dome, Yosemite Natl' Pk 95389
County	Mariposa
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-APR-02
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	18-NOV-13

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AQS ID	06-069-0003
CASTNET ID	PIN414
Site Name	Pinnacles NM
GPS Coordinates	36.483235, -121.156876
Street Address	NE Entrance, Pinnacles NM
County	San Benito
Distance to Roadway	> 100 M
CBSA Name	San Jose-Sunnyvale-Santa Clara, CA Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Neighborhood
Reporting Agency	National Park Service
Start Date	01-MAR-00
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	16-SEP-13

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AQS ID	06-071-9002
CASTNET ID	JOT403
Site Name	Joshua Tree NP
GPS Coordinates	34.069569, -116.388933
Street Address	Joshua Tree National Monument
County	San Bernardino
Distance to Roadway	> 100 M
CBSA Name	Riverside-San Bernardino-Ontario, CA Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Regional Scale
Reporting Agency	National Park Service
Start Date	01-APR-98
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	06-AUG-13

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AQS ID	06-089-3003
CASTNET ID	LAV410
Site Name	Lassen Volcanic NP
GPS Coordinates	40.539991, -121.576462
Street Address	Manzanita Lake Rs, Lassen Volcanic NP
County	Shasta
Distance to Roadway	25 M
CBSA Name	Redding, CA Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Neighborhood
Reporting Agency	National Park Service
Start Date	01-SEP-05
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	10 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	07-MAY-13

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AQS ID	06-107-0009
CASTNET ID	SEK430
Site Name	Sequoia NP - Ash Mountain
GPS Coordinates	36.489469, -118.829153
Street Address	Sequoia & Kings Canyon NP
County	Tulare
Distance to Roadway	40 M
CBSA Name	Visalia-Porterville, CA Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-APR-02
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	5 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	19-NOV-13

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AQS ID	08-051-9991
CASTNET ID	GTH161
Site Name	Gothic
GPS Coordinates	38.95627, -106.98587
Street Address	Gunnison National Forest, Crested Butte, Co 81224
County	Gunnison
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	13-JUN-13

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AQS ID	08-069-0007
CASTNET ID	ROM406
Site Name	Rocky Mtn NP
GPS Coordinates	40.278129, -105.545635
Street Address	Rocky Mountain National Park, Estes Park, Co 80517
County	Larimer
Distance to Roadway	> 100 M
CBSA Name	Fort Collins-Loveland, CO Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Neighborhood
Reporting Agency	National Park Service
Start Date	01-APR-02
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	7.5 m
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	29-OCT-13

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AQS ID	08-069-9991
CASTNET ID	ROM206
Site Name	Rocky Mtn NP Collocated
GPS Coordinates	40.278129, -105.545635
Street Address	Rocky Mountain National Park, Estes Park, Co 80517
County	Larimer
Distance to Roadway	> 100 M
CBSA Name	Fort Collins-Loveland, CO Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA, NON-REGULATORY
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	7.5 m
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	10-JUN-13

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AQS ID	08-083-0101
CASTNET ID	MEV405
Site Name	Mesa Verde NP
GPS Coordinates	37.198398, -108.490462
Street Address	Mesa Verde National Park, Colorado
County	Montezuma
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Regional Scale
Reporting Agency	National Park Service
Start Date	01-JAN-05
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	21-AUG-13

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AQS ID	09-015-9991
CASTNET ID	ABT147
Site Name	Abington
GPS Coordinates	41.84046, -72.010368
Street Address	80 Ayers Rd, Abington, Ct 06230
County	Windham
Distance to Roadway	> 100 M
CBSA Name	Willimantic, CT Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	22-OCT-13

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AQS ID	12-061-9991
CASTNET ID	IRL141
Site Name	Indian River Lagoon
GPS Coordinates	27.849215, -80.455595
Street Address	Sebastian Inlet State Recreation Area, Vero Beach, FL 32963
County	Indian River
Distance to Roadway	> 100 M
CBSA Name	Sebastian-Vero Beach, FL Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	13-FEB-14

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AQS ID	12-077-9991
CASTNET ID	SUM156
Site Name	Sumatra
GPS Coordinates	30.110226, -84.99038
Street Address	Apalachicola National Forest, Bristol, FL 32321
County	Liberty
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	11-FEB-14

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AQS ID	13-231-9991
CASTNET ID	GAS153
Site Name	Georgia Station
GPS Coordinates	33.181173, -84.410054
Street Address	Georgia Station Georgia Agricultural Experiment Station, Williamson, Ga 30292
County	Pike
Distance to Roadway	> 100 M
CBSA Name	Atlanta-Sandy Springs-Marietta, GA Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	04-MAR-14

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AQS ID	17-019-1001
CASTNET ID	BVL130
Site Name	Bondville
GPS Coordinates	40.051981, -88.372495
Street Address	Twp Rd 500 E.
County	Champaign
Distance to Roadway	> 100 M
CBSA Name	Champaign-Urbana, IL Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	01-AUG-13

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AQS ID	17-085-9991
CASTNET ID	STK138
Site Name	Stockton
GPS Coordinates	42.287216, -89.99995
Street Address	10952 E. Parker Rd, Stockton, IL 61085
County	Jo Daviess
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	19-SEP-13

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AQS ID	17-119-9991
CASTNET ID	ALH157
Site Name	Alhambra
GPS Coordinates	38.869001, -89.622815
Street Address	5403 State Road 160, Highland, IL 62249
County	Madison
Distance to Roadway	> 100 M
CBSA Name	St. Louis, MO-IL Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	15-SEP-13

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AQS ID	18-083-9991
CASTNET ID	VIN140
Site Name	Vincennes
GPS Coordinates	38.740792, -87.484923
Street Address	Southwest Purdue Agricultural Center, Vincennes, In 47591
County	Knox
Distance to Roadway	> 100 M
CBSA Name	Vincennes, IN Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	14-SEP-13

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AQS ID	18-169-9991
CASTNET ID	SAL133
Site Name	Salamonie Reservoir
GPS Coordinates	40.816038, -85.661407
Street Address	Hamilton Rd, Lagro, In 46941
County	Wabash
Distance to Roadway	> 100 M
CBSA Name	Wabash, IN Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	28-SEP-13

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AQS ID	21-061-0501
CASTNET ID	MAC426
Site Name	Mammoth Cave NP
GPS Coordinates	37.131794, -86.142953
Street Address	Mammoth Cave NP - Alfred Cook Road
County	Edmonson
Distance to Roadway	> 100 M
CBSA Name	Bowling Green, KY Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-AUG-97
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	28-MAR-14

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AQS ID	21-175-9991
CASTNET ID	CKT136
Site Name	Crockett
GPS Coordinates	37.92146, -83.066295
Street Address	State Highway 437, West Liberty, Ky 41472
County	Morgan
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	31-MAR-14

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AQS ID	21-221-9991
CASTNET ID	CDZ171
Site Name	Cadiz
GPS Coordinates	36.784053, -87.85015
Street Address	5720 Old Dover Rd, Cadiz, Ky 42211
County	Trigg
Distance to Roadway	> 100 M
CBSA Name	Clarksville, TN-KY Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-MAR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	28-MAR-14

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AQS ID	21-229-9991
CASTNET ID	MCK131
Site Name	Mackville
GPS Coordinates	37.704678, -85.048706
Street Address	542 Wesley-Miller Rd, Harrodsburg, Ky 40330
County	Washington
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-MAR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	0 m
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	Y
Frequency for 1 Pt QC	Daily
Last PE Date	30-MAR-14

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AQS ID	23-003-9991
CASTNET ID	ASH135
Site Name	Ashland
GPS Coordinates	46.603832, -68.413227
Street Address	45 Radar Rd, Ashland, Me 04732
County	Aroostook
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	20 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	19-OCT-13

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AQS ID	23-009-0103
CASTNET ID	ACA416
Site Name	Acadia NP
GPS Coordinates	44.377086, -68.2608
Street Address	Mcfarland Hill-Air Pollutant Research Site
County	Hancock
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Regional Transport & Upwind Background
Monitor Type	SLAMS & NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	Maine - Dept of Environmental Protection
Spatial Scale	Regional Scale
Reporting Agency	Maine - Dept of Environmental Protection
Start Date	09-FEB-98
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	25 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	27-FEB-14

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AQS ID	24-019-9991
CASTNET ID	BWR139
Site Name	Blackwater NWR
GPS Coordinates	38.444971, -76.111274
Street Address	Blackwater National Wildlife Refuge, Cambridge, Md 21613
County	Dorchester
Distance to Roadway	> 100 M
CBSA Name	Cambridge, MD Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	03-DEC-13

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AQS ID	24-033-9991
CASTNET ID	BEL116
Site Name	Beltsville
GPS Coordinates	39.028177, -76.817127
Street Address	Powder Mill Rd, Laurel, Md 20708
County	Prince George's
Distance to Roadway	> 100 M
CBSA Name	Washington-Arlington-Alexandria, DC-VA-MD-WV Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	01-NOV-13

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AQS ID	26-157-9991
CASTNET ID	UVL124
Site Name	Unionville
GPS Coordinates	43.613572, -83.359869
Street Address	1821 E. Dickerson Rd, Unionville, Mi 48767
County	Tuscola
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	30-AUG-13

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AQS ID	26-161-9991
CASTNET ID	ANA115
Site Name	Ann Arbor
GPS Coordinates	42.416636, -83.90218
Street Address	10070 Strawberry Lake Rd, Dexter, Mi 48130
County	Washtenaw
Distance to Roadway	> 100 M
CBSA Name	Ann Arbor, MI Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	17-SEP-13

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AQS ID	26-165-9991
CASTNET ID	HOX148
Site Name	Hoxeyville
GPS Coordinates	44.18089, -85.73898
Street Address	10637 S 9 Rd, Cadillac, Mi 49601
County	Wexford
Distance to Roadway	> 100 M
CBSA Name	Cadillac, MI Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	30-AUG-13

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AQS ID	27-137-0034
CASTNET ID	VOY413
Site Name	Voyageurs NP
GPS Coordinates	48.412518, -92.829225
Street Address	Voyageurs National Park
County	St. Louis
Distance to Roadway	> 100 M
CBSA Name	Duluth, MN-WI Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-APR-02
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	06-SEP-13

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AQS ID	28-161-9991
CASTNET ID	CVL151
Site Name	Coffeeville
GPS Coordinates	34.002747, -89.799183
Street Address	Jamie L. Whitten Plant Materials Center, Coffeeville, Ms 38922
County	Yalobusha
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	17 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	28-FEB-14

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AQS ID	30-029-8001
CASTNET ID	GLR468
Site Name	Glacier NP
GPS Coordinates	48.510301, -113.996807
Street Address	Glacier National Park
County	Flathead
Distance to Roadway	> 100 M
CBSA Name	Kalispell, MT Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-APR-89
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	18-JUL-13

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AQS ID	31-107-9991
CASTNET ID	SAN189
Site Name	Santee Sioux
GPS Coordinates	42.829154, -97.854128
Street Address	State Spur 54d, Niobrara, Ne 68760
County	Knox
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	25-APR-13

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AQS ID	32-033-0101
CASTNET ID	GRB411
Site Name	Great Basin NP
GPS Coordinates	39.005121, -114.215932
Street Address	Great Basin National Park
County	White Pine
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Regional Scale
Reporting Agency	National Park Service
Start Date	01-MAR-04
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	16-APR-13

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AQS ID	33-009-9991
CASTNET ID	WST109
Site Name	Woodstock
GPS Coordinates	43.944519, -71.700787
Street Address	Hubbard Brook Experimental Forest, North Woodstock, Nh 03262
County	Grafton
Distance to Roadway	50 M
CBSA Name	Lebanon, NH-VT Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	10 - 30 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	17-OCT-13

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AQS ID	34-021-9991
CASTNET ID	WSP144
Site Name	Wash. Crossing
GPS Coordinates	40.312303, -74.872663
Street Address	Washington Crossing State Park, Titusville, Nj 08560
County	Mercer
Distance to Roadway	> 100 M
CBSA Name	Trenton-Ewing, NJ Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	24-OCT-13

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AQS ID	36-031-9991
CASTNET ID	HWF187
Site Name	Huntington Wildlife Forest
GPS Coordinates	43.973044, -74.223317
Street Address	Huntington Wildlife Forest, Newcomb, Ny 12852
County	Essex
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	20 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	16-OCT-13

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AQS ID	36-109-9991
CASTNET ID	CTH110
Site Name	Connecticut Hill
GPS Coordinates	42.400875, -76.653516
Street Address	Connecticut Hill Wildlife Management Area, Newfield, Ny 14867
County	Tompkins
Distance to Roadway	> 100 M
CBSA Name	Ithaca, NY Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	30 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	14-OCT-13

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AQS ID	37-011-9991
CASTNET ID	PNF126
Site Name	Cranberry
GPS Coordinates	36.105435, -82.045015
Street Address	Pisgah National Forest, Newland, Nc 28657
County	Avery
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	12-MAY-13

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AQS ID	37-031-9991
CASTNET ID	BFT142
Site Name	Beaufort
GPS Coordinates	34.884668, -76.620666
Street Address	Open Grounds Farm, Beaufort, Nc 28516
County	Carteret
Distance to Roadway	> 100 M
CBSA Name	Morehead City, NC Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	05-NOV-13

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AQS ID	37-113-9991
CASTNET ID	COW137
Site Name	Coweeta
GPS Coordinates	35.060527, -83.43034
Street Address	USDA Southern Research Station, Coweeta Hydrologic Laboratory, Otto, Nc 28763
County	Macon
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	26-MAR-14

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AQS ID	37-123-9991
CASTNET ID	CND125
Site Name	Candor
GPS Coordinates	35.26333, -79.83754
Street Address	136 Perry Dr, Candor, Nc 27229
County	Montgomery
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	10-NOV-13

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AQS ID	38-007-0002
CASTNET ID	THR422
Site Name	Theodore Roosevelt NP
GPS Coordinates	46.894844, -103.377719
Street Address	13881 I94 East
County	Billings
Distance to Roadway	> 100 M
CBSA Name	Dickinson, ND Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	SLAMS
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	North Dakota - Dept of Health
Spatial Scale	Regional Scale
Reporting Agency	North Dakota - Dept of Health
Start Date	27-JUL-98
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	20-DEC-13

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AQS ID	39-017-9991
CASTNET ID	OXF122
Site Name	Oxford
GPS Coordinates	39.531115, -84.723547
Street Address	Ecology Research Center, Miami University, Oxford, Ohio 45056
County	Butler
Distance to Roadway	> 100 M
CBSA Name	Cincinnati-Middletown, OH-KY-IN Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	08-MAY-13

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AQS ID	39-047-9991
CASTNET ID	DCP114
Site Name	Deer Creek
GPS Coordinates	39.635888, -83.260563
Street Address	Deer Creek State Park, Mt Sterling, Oh 43143
County	Fayette
Distance to Roadway	> 100 M
CBSA Name	Washington Court House, OH Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	15 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	22-APR-13

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AQS ID	39-121-9991
CASTNET ID	QAK172
Site Name	Quaker City
GPS Coordinates	39.942714, -81.337914
Street Address	58163 St. Johns Rd, Quaker City, Oh 43773
County	Noble
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	09-MAY-13

Appendix A. Detailed Site Information (Page 54 of 79)

AQS ID	40-001-9009
CASTNET ID	CHE185
Site Name	Cherokee Nation
GPS Coordinates	35.750786, -94.669789
Street Address	South Highway 59, Rr1, 1795 Dahlongah Park Road, Stilwell, Oklahoma
County	Adair
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Regional Transport & General/Background
Monitor Type	TRIBAL & EPA
Instrument	Teledyne ML9811
Method Code	091
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUL-02
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	27-FEB-14

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AQS ID	42-001-9991
CASTNET ID	ARE128
Site Name	Arendtsville
GPS Coordinates	39.923241, -77.307863
Street Address	747 Winding Rd, Biglerville, Pa 17307
County	Adams
Distance to Roadway	> 100 M
CBSA Name	Gettysburg, PA Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	07-NOV-13

Appendix A. Detailed Site Information (Page 56 of 79)

AQS ID	42-027-9991
CASTNET ID	PSU106
Site Name	Penn State
GPS Coordinates	40.720902, -77.931759
Street Address	1366 Tadpole Rd, Pennsylvania Furnace, Pa 16865
County	Centre
Distance to Roadway	> 100 M
CBSA Name	State College, PA Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	24-SEP-13

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AQS ID	42-047-9991
CASTNET ID	KEF112
Site Name	Kane Exp. Forest
GPS Coordinates	41.598119, -78.767866
Street Address	Kane Experimental Forest, Allegheny National Forest, Wilcox, Pa 15870
County	Elk
Distance to Roadway	> 100 M
CBSA Name	St. Marys, PA Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	20 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	20-SEP-13

Appendix A. Detailed Site Information (Page 58 of 79)

AQS ID	42-085-9991
CASTNET ID	MKG113
Site Name	M.K. Goddard
GPS Coordinates	41.426847, -80.145247
Street Address	Maurice K Goddard State Park, Sandy Lake, Pa 16145
County	Mercer
Distance to Roadway	60 M
CBSA Name	Youngstown-Warren-Boardman, OH-PA Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	10 - 30 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	17-SEP-13

Appendix A. Detailed Site Information (Page 59 of 79)

AQS ID	42-111-9991
CASTNET ID	LRL117
Site Name	Laurel Hill
GPS Coordinates	39.988309, -79.251573
Street Address	Laurel Hill State Park, Rockwood, Pa 15557
County	Somerset
Distance to Roadway	> 100 M
CBSA Name	Somerset, PA Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	08-NOV-13

Appendix A. Detailed Site Information (Page 60 of 79)

AQS ID	46-033-0132
CASTNET ID	WNC429
Site Name	Wind Cave NP
GPS Coordinates	43.557639, -103.483856
Street Address	Wind Cave National Park, South Dakota
County	Custer
Distance to Roadway	> 100 M
Pollutant	Ozone, 3
Parameter Code	44201
NAAQS Monitoring Objective	Regional Transport & General/Background
Monitor Type	SLAMS
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	South Dakota - Dept of Environment and Natural Resources
Spatial Scale	Regional Scale
Reporting Agency	South Dakota - Dept of Environment and Natural Resources
Start Date	01-JAN-05
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	14-NOV-13

Appendix A. Detailed Site Information (Page 61 of 79)

AQS ID	47-009-0101
CASTNET ID	GRS420
Site Name	Great Smoky NP - Look Rock
GPS Coordinates	35.633482, -83.941606
Street Address	Great Smoky Mountains NP Look Rock
County	Blount
Distance to Roadway	> 100 M
CBSA Name	Knoxville, TN Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	SLAMS & NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Neighborhood
Reporting Agency	National Park Service
Start Date	01-DEC-97
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	05-NOV-13

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AQS ID	47-025-9991
CASTNET ID	SPD111
Site Name	Speedwell
GPS Coordinates	36.46983, -83.826511
Street Address	718 Russell Hill Rd, Speedwell, Tn 37870
County	Claiborne
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-MAR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	31-MAR-14

Appendix A. Detailed Site Information (Page 63 of 79)

AQS ID	47-041-9991
CASTNET ID	ESP127
Site Name	Edgar Evins
GPS Coordinates	36.03893, -85.73305
Street Address	Edgar Evans State Park, Smithville, Tn 37166
County	DeKalb
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-MAR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	27-MAR-14

Appendix A. Detailed Site Information (Page 64 of 79)

AQS ID	48-043-0101
CASTNET ID	BBE401
Site Name	Big Bend NP
GPS Coordinates	29.302651, -103.177813
Street Address	Big Bend National Park, Texas
County	Brewster
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Regional Scale
Reporting Agency	National Park Service
Start Date	01-MAR-04
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	20-MAR-14

Appendix A. Detailed Site Information (Page 65 of 79)

AQS ID	48-373-9991
CASTNET ID	ALC188
Site Name	Alabama-Coushatta
GPS Coordinates	30.701577, -94.674011
Street Address	361 Tombigbee Rd, Livingston, Tx 77351
County	Polk
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	12-MAR-14

Appendix A. Detailed Site Information (Page 66 of 79)

AQS ID	48-381-9991
CASTNET ID	PAL190
Site Name	Palo Duro
GPS Coordinates	34.88061, -101.664703
Street Address	Palo Duro Canyon State Park, Canyon, Tx 79015
County	Randall
Distance to Roadway	> 100 M
CBSA Name	Amarillo, TX Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	25-MAR-14

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AQS ID	49-037-0101
CASTNET ID	CAN407
Site Name	Canyonlands NP
GPS Coordinates	38.458323, -109.82126
Street Address	Canyonlands National Park, Utah
County	San Juan
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Regional Scale
Reporting Agency	National Park Service
Start Date	12-MAR-02
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	19-APR-13

Appendix A. Detailed Site Information (Page 68 of 79)

AQS ID	49-047-1002
CASTNET ID	DIN431
Site Name	Dinosaur NM
GPS Coordinates	40.4373, -109.3046
Street Address	Dinosaur National Monument
County	Uintah
Distance to Roadway	> 100 M
CBSA Name	Vernal, UT Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	20-NOV-13
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	04-OCT-11

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AQS ID	51-071-9991
CASTNET ID	VPI120
Site Name	Horton Station
GPS Coordinates	37.329832, -80.55751
Street Address	1856 Horton Ln, Newport, Va 24128
County	Giles
Distance to Roadway	> 100 M
CBSA Name	Blacksburg-Christiansburg-Radford, VA Metropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	09-NOV-13

Appendix A. Detailed Site Information (Page 70 of 79)

AQS ID	51-113-0003
CASTNET ID	SHN418
Site Name	Shenandoah NP - Big Meadows
GPS Coordinates	38.5231, -78.43471
Street Address	Shenandoah NP Big Meadows
County	Madison
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Population Exposure
Monitor Type	SLAMS & 192842
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Spatial Scale	Neighborhood
Reporting Agency	National Park Service
Start Date	01-APR-95
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	25-NOV-13

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AQS ID	51-147-9991
CASTNET ID	PED108
Site Name	Prince Edward
GPS Coordinates	37.165222, -78.307067
Street Address	Prince Edward-Gallion State Forest, Burkeville, Va 23922
County	Prince Edward
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JAN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	06-NOV-13

Appendix A. Detailed Site Information (Page 72 of 79)

AQS ID	54-021-9991
CASTNET ID	CDR119
Site Name	Cedar Creek
GPS Coordinates	38.879503, -80.847677
Street Address	Cedar Creek State Park, Cedarville, Wv 26611
County	Gilmer
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	29-OCT-13

Appendix A. Detailed Site Information (Page 73 of 79)

AQS ID	54-093-9991
CASTNET ID	PAR107
Site Name	Parsons
GPS Coordinates	39.090434, -79.661742
Street Address	USDA Northern Research Station, Monongahela National Forest, Parsons, Wv 26287
County	Tucker
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	30-OCT-13

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AQS ID	55-119-9991
CASTNET ID	PRK134
Site Name	Perkinstown
GPS Coordinates	45.206525, -90.597209
Street Address	W 10746 County Highway M, Medford, Wi 54451
County	Taylor
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-APR-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	04-SEP-13

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AQS ID	56-001-9991
CASTNET ID	CNT169
Site Name	Centennial
GPS Coordinates	41.364531, -106.24002
Street Address	Roosevelt National Forest, Centennial, Wy 82055
County	Albany
Distance to Roadway	> 100 M
CBSA Name	Laramie, WY Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	14-MAY-13

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AQS ID	56-003-0002
CASTNET ID	BAS601
Site Name	Basin
GPS Coordinates	44.28, -108.0411
Street Address	Basin (WARMS Station)
County	Big Horn
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	Bureau of Land Management - Wyoming office
Reporting Agency	Bureau of Land Management - Wyoming office
Start Date	29-NOV-12
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	22-JUL-13

Appendix A. Detailed Site Information (Page 77 of 79)

AQS ID	56-035-9991
CASTNET ID	PND165
Site Name	Pinedale
GPS Coordinates	42.929031, -109.787796
Street Address	Skyline Dr, Pinedale, Wy 82941
County	Sublette
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	Highest Concentration
Monitor Type	EPA
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	EPA/CAMD
Spatial Scale	Regional Scale
Reporting Agency	EPA/CAMD
Start Date	01-JUN-11
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	12-MAY-13

Appendix A. Detailed Site Information (Page 78 of 79)

AQS ID	56-039-1011
CASTNET ID	YEL408
Site Name	Yellowstone NP
GPS Coordinates	44.565356, -110.400338
Street Address	Yellowstone National Park
County	Teton
Distance to Roadway	> 100 M
CBSA Name	Jackson, WY-ID Micropolitan Statistical Area
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49C
Method Code	047
FRM or FEM	FEM
Collecting Agency	National Park Service
Reporting Agency	National Park Service
Start Date	01-APR-02
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	15 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	06-JUN-13

Appendix A. Detailed Site Information (Page 79 of 79)

AQS ID	56-045-0003
CASTNET ID	NEC602
Site Name	Newcastle
GPS Coordinates	43.873, -104.1919
Street Address	Newcastle, Warms Station
County	Weston
Distance to Roadway	> 100 M
Pollutant	Ozone, 1
Parameter Code	44201
NAAQS Monitoring Objective	General/Background
Monitor Type	NON-EPA FEDERAL
Instrument	Thermo 49I
Method Code	047
FRM or FEM	FEM
Collecting Agency	Bureau of Land Management - Wyoming office
Reporting Agency	Bureau of Land Management - Wyoming office
Start Date	14-NOV-12
Sampling Frequency	Continuous
Sampling Season	01/01 - 12/31
Probe Height	10 meters
Distance to Trees	> 50 M
Distance Between Collocated	N/A
Wind Obstruction	360 degrees
Probe Material	Teflon ^(R)
Changes w/in 18 months	N
Frequency for 1 Pt QC	Daily
Last PE Date	29-JUL-13

Appendix B. Monitoring Quality Objectives (Page 1 of 3)

Note: match numbered details within the 4) Information/Action column with columns (1) Requirement (O₃), (2) Frequency, and (3) Acceptance Criteria.

1) Requirement (O ₃)	2) Frequency	3) Acceptance Criteria	4) Information /Action
CRITICAL CRITERIA-OZONE			
One Point QC Check Single analyzer	1/ 2 weeks	≤ +7% (percent difference)	1 and 2) 40 CFR Part 58 App A Sec 3.2.3) Recommendation based on DQO in 40 CFR Part 58 App A Sec 2.3.1.2. QC Check Conc range 0.01 - 0.10 ppm, relative to routine concentrations
Zero/span check	1/ 2 weeks	Zero drift ≤ + 1.5 ppb Span drift < + 7 %	1 and 2) QA Handbook Volume 2 Section 12.3.3) Recommendation and related to DQO
OPERATIONAL CRITERIA - OZONE			
Shelter Temperature Range	Daily (hourly values)	20 to 30° C. (Hourly avg) or per manufacturers specifications if designated to a wider temperature range	1, 2 and 3) QA Handbook Volume 2 Section 7.2.2 Generally the 20-30 o C range will apply but the most restrictive operable range of the instruments in the shelter may also be used as guidance. FRM/FEM list found on AMTIC provides temperature range for given instrument. FRM/FEM monitor testing is required at 20-30° C range per 40 CFR Part 53.32
Shelter Temperature Control	Daily (hourly values)	≤ + 2° C SD over 24 hours	1, 2 and 3) QA Handbook Volume 2 Section 7.2.2
Shelter Temperature Device Check	1/6 mo	± 2° C of standard	1, 2 and 3) QA Handbook Volume 2 Section 7.2.2
Annual Performance Evaluation Single analyzer	Every site 1/year within period of monitor operation, 25 % of sites quarterly	Percent difference of audit levels 3-10 ≤ +15% Audit levels 1&2 ± 1.5 ppb difference or 15%	1 and 2) 40 CFR Part 58 App A sec 3.2.2.3) Recommendation- 3 audit concentrations not including zero. AMTIC guidance 2/17/2011 http://www.epa.gov/ttn/amtic/cpreldoc.html
Federal Audits (NPAP)	1/year at selected sites 20% of sites audited	Audit levels 1&2 ± 1.5 ppb difference all other levels percent difference + 10%	1) 40 CFR Part 58 App A sec 2.4.2) NPAP adequacy requirements on AMTIC 3) NPAP QAPP/SOP
Verification/Calibration	Upon receipt/adjustment/repair/installation/moving and repair and recalibration of standard of higher level 1/6 months if manual zero/span performed biweekly 1/year if continuous zero/span performed daily	All points within + 2 % of calibration range of best-fit straight line Linearity error <5%	1) 40 CFR Part 50 App D 2) Recommendation 3) Recommendation- Linearity error 40 CFR Part 50 App D Multi-point calibration (0 and 4 upscale points) 40 CFR Part 50 App D sec 5.2.3
Zero Air/Zero Air Check	1/year	Concentrations below LDL	1) 40 CFR Part 50 App D Section 4.1.2 and 3) Recommendation
Ozone Level 2 Standard			
Certification/recertification to Standard Reference Photometer (Level 1)	1/year	single point difference < + 3%	1) 40 CFR Part 50 App D Section 5.4.2 and 3) Transfer Standard Guidance EPA-454/B-10-001 Level 2 standard (formerly called primary standard) usually transported to EPA Regions SRP for comparison

Appendix B. Monitoring Quality Objectives (Page 2 of 3)

1) Requirement (O3)	2) Frequency	3) Acceptance Criteria	4) Information /Action
Level 2 and Greater Transfer Standard Precision	1/year	Standard Deviation less than 0.005 ppm or 3% whichever is greater	1) 40 CFR Part 50 Appendix D Sec 3.1 2) Recommendation, part of reverification 3) 40 CFR Part 50 Appendix D Sec 3.1
(if recertified via a transfer standard)	1/year	Regression slopes = 1.00 ± 0.03 and two intercepts are $0 + 3$ ppb	1, 2 and 3) Transfer Standard Guidance EPA-545/B-10-001
Ozone Transfer standard (Level 3 and greater)			
Qualification	Upon receipt of transfer standard	$\pm 4\%$ or ± 4 ppb (whichever greater)	1, 2 and 3) Transfer Standard Guidance EPA-545/B-10-001
Certification	After qualification and upon receipt/adjustment/repair	RSD of six slopes $\leq 3.7\%$ Std. Dev. of 6 intercepts 1.5	1, 2 and 3) Transfer Standard Guidance EPA-545/B-10-001
Recertification to higher level standard	Beginning and end of O ₃ season or 1/6 months whichever less	New slope = ± 0.05 of previous and RSD of six slopes $< 3.7\%$ Std. Dev. of 6 intercepts 1.5	1, 2 and 3) Transfer Standard Guidance EPA-545/B-10-001 recertification test that then gets added to most recent 5 tests. If does not meet acceptability certification fails
Detection (FEM/FRMs)			
Noise	Upon receipt/adjustment/repair/installation/moving and repair and recalibration or 1/year	≤ 0.005 ppm	1) 40 CFR Part 53.23 (b) (definition & procedure) 2) NA 3) 40 CFR Part 53.20 Table B-1
Lower detectable level	1/year	0.01 ppm	1) 40 CFR Part 53.23 (b) (definition & procedure) 2) Recommendation 3) 40 CFR Part 53.20 Table B-1
SYSTEMATIC CRITERIA - OZONE			
Sampler/Monitor/Transfer and Calibration Standard	NA	Meets requirements listed in FRM/FEM designation	1) 40 CFR Part 58 App C Section 2.1 2) NA 3) 40 CFR Part 53 & FRM/FEM method list
Standard Reporting	All data	ppm (final units in AQS)	1, 2 and 3) 40 CFR Part 50 App I sec 2.1.1
Rounding convention for data reported to	All data	3 places after decimal with digits to right	1, 2 and 3) 40 CFR Part 50 App I sec 2.1.1
Completeness (seasonal)	3-Year Comparison	$> 90\%$ (avg) daily max available in ozone season with min of 75% in any one year.	1) 40 CFR Part 50 App I 2) 40 CFR Part 50 App I Section 2.3 3) 40 CFR Part 50 App I Section 2..3 (b)
	8- hour average	$\geq 75\%$ of hourly averages for the 8-hour	1) 40 CFR Part 50 App I 2 and 3) 40 CFR Part 50 App I Section 2.1.1
	Valid Daily Max	$> 75\%$ of the 24, 8 hour averages (18 of 24 8- hour averages)	1) 40 CFR Part 50 App I 2) 40 CFR Part 50 App I Section 2.1.2 3) 40 CFR Part 50 App I Section 2.1.2 (b)
Sample Residence Time Verification	1/year	< 20 seconds	1) 40 CFR Part 58 App E, section 9 (c) 2) Recommendation 3) 40 CFR Part 58 App E, section 9 (c)

Appendix B. Monitoring Quality Objectives (Page 3 of 3)

1) Requirement (O3)	2) Frequency	3) Acceptance Criteria	4) Information /Action
Sample Probe, Inlet, Sampling train	All sites	Borosilicate glass (e.g., Pyrex®) or Teflon®	1) 40 CFR Part 58 App E, section sec 9 (a) 2) Recommendation 3) 40 CFR Part 58 App E, section sec 9 (a) FEP and PFA have been accepted as a equivalent material to Teflon® . Replacement or cleaning is suggested as 1/year and more frequent if pollutant load or contamination dictate
Siting	1/year	Meets siting criteria or waiver documented	1) 40 CFR Part 58 App E, sections 2-6 2) Recommendation 3) 40 CFR Part 58 App E, sections 2-6
EPA Standard Ozone Reference Photometer (SRP) Recertification (Level 1)	1/year	Regression slope = 1.00 ± 0.01 and intercept < 3 ppb	1,2 and 3) Transfer Standard Guidance EPA-454/B-10-001 This is usually at a Regional Office and is compared against the traveling SRP
Precision(using 1-point QC checks)	Calculated annually and as appropriate for design value estimates	90% CL $CV \leq 7\%$	1) 40 CFR Part 58 App A 2.3.1.2 & 3.2.1 2) 40 CFR Part 58 App A sec 4 (b) 3) 40 CFR Part 58 App A sec 4.1.2
Bias (using 1-point QC checks)	Calculated annually and as appropriate for design value estimates	95% CL $\leq \pm 7\%$	1) 40 CFR Part 58 App A 2.3.1.2 & 3.2.1 2) 40 CFR Part 58 App A sec 4 (b) 3) 40 CFR Part 58 App A sec 4.1.3
Annual PE Primary QA Organization (PQAO) Evaluation	1/year	95% of audit percent differences fall within the one point QC check 95% probability intervals at PQAO level of aggregation	1) 40 CFR Part 58 App A Section 3.2.2 2) Recommendation 3) 40 CFR Part 58 App A sec 4.1.4 & 4.1.5

Table reproduced from OAQPS' Quality Assurance Handbook for Air Pollution Measurement Systems. Volume II Ambient Air Quality Monitoring Program EPA-454/B-13-003 May, 2013. Appendix D. Revision No. 0. <http://www.epa.gov/ttnamti1/files/ambient/pm25/qa/QA-Handbook-Vol-II.pdf>

Appendix C. Ozone Season by State (Page 1 of 2)

State	Begin month	End month
Alabama	March	October
Alaska	April	October
Arizona	January	December
Arkansas	March	November
California	January	December
Colorado	March	September
Connecticut	April	September
Delaware	April	October
District of Columbia	April	October
Florida	March	October
Georgia	March	October
Hawaii	January	December
Idaho	May	September
Illinois	April	October
Indiana	April	September
Iowa	April	October
Kansas	April	October
Kentucky	March	October
Louisiana AQCR 019,022	March	October
Louisiana AQCR 106	January	December
Maine	April	September
Maryland	April	October
Massachusetts	April	September
Michigan	April	September
Minnesota	April	October
Mississippi	March	October
Missouri	April	October
Montana	June	September
Nebraska	April	October
Nevada	January	December
New Hampshire	April	September
New Jersey	April	October
New Mexico	January	December
New York	April	October
North Carolina	April	October
North Dakota	May	September
Ohio	April	October
Oklahoma	March	November
Oregon	May	September
Pennsylvania	April	October
Puerto Rico	January	December
Rhode Island	April	September
South Carolina	April	October
South Dakota	June	September
Tennessee	March	October
Texas AQCR 106,153, 213, 214, 216	January	December
Texas AQCR 022, 210, 211, 212, 215, 217, 218	March	October

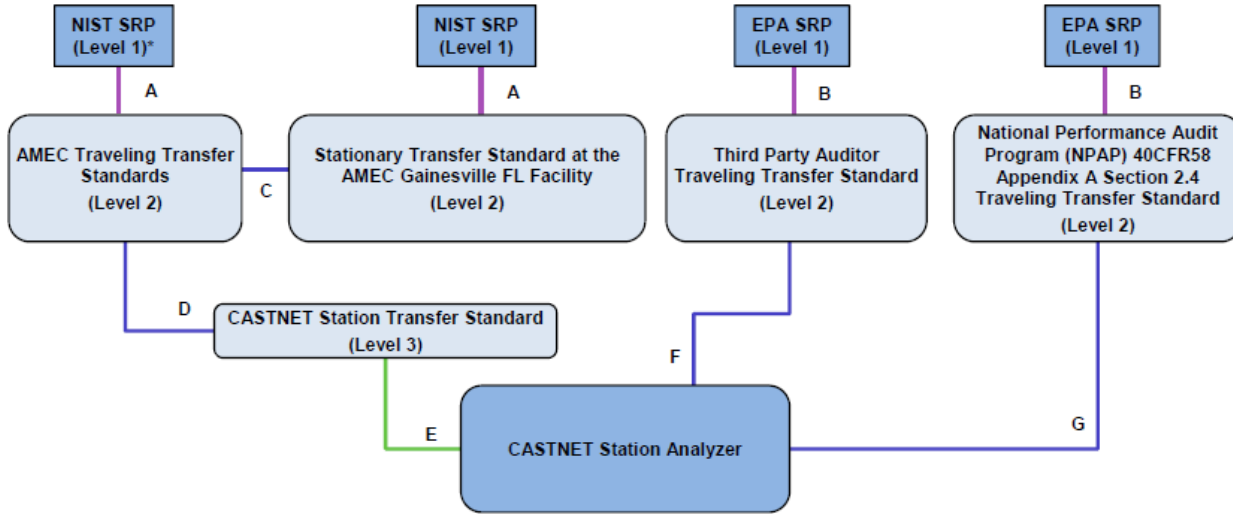
Appendix C. Ozone Season by State (Page 2 of 2)

State	Begin month	End month
Utah	May	September
Vermont	April	September
Virginia	April	October
Washington	May	September
West Virginia	April	October
Wisconsin	April 15	October 15
Wyoming	April	October
American Samoa	January	December
Guam	January	December
Virgin Islands	January	December

Ozone season by State from 40 CFR Part 58, App D, Table D-3. Air Quality Control Region (AQCR) as delineated in 40 CFR Part 81, Subpart B.

<http://www.ecfr.gov/cgi-bin/text-idx?SID=ce2f891ac747e54daf88ae2cab3de12f&node=40:18.0.1.1.1.2&rgn=div6>

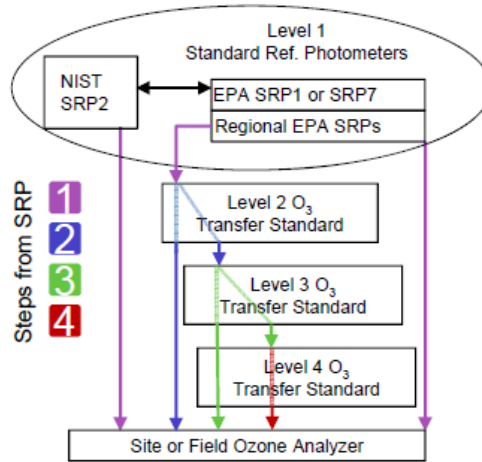
Appendix D. CASTNET QAPP Ozone Certification Flowchart



Legend

- A = Annual Reverification
- B = Quarterly Reverification
- C = Audited ~1/6 weeks
- D = Reverification 1/6 months
- E = Zero, Span and single Point QC check daily
- F = Audited Annually
- G = Audited 1/5 years

***Traceability**



Appendix E. EPA Regional Office Contacts Information

EPA Region	Name	Phone	Email
Region 1	Judge, Robert	617-918-8387	judge.robert@epa.gov
Region 2	Ruvo, Richard A.; Mustafa, Mustafa	212-637-4014; 732-906-6881	ruvo.richard@epa.gov; mustafa.mustafa@epa.gov
Region 3	Hyden, Loretta	215-814-2113	hyden.loretta@epa.gov
Region 4	Rinck, Todd; Garver, Daniel	404-562-9062; 404-562-9839	rinck.todd@epa.gov; garver.daniel@epa.gov
Region 5	McGrath, Jesse	312-886-1532	mcgrath.jesse@epa.gov
Region 6	Sather, Mark	214-665-8353	sather.mark@epa.gov
Region 7	Nichols, Robert; Grooms, Leland	913-551-5266; 913-551-5010	nichols.robert@epa.gov; grooms.leland@epa.gov
Region 8	Payton, Richard; Rickard, Joshua	303-312-6439; 303-312-6460	payton.richard@epa.gov; rickard.joshua@epa.gov
Region 9	Flagg, Michael; Hoag, Katherine	415-972-3372; 415-972-3970	flagg.michaela@epa.gov; hoag.katherine@epa.gov
Region 10	Hall, Christopher	206-553-0521	hall.christopher@epa.gov

Appendix F. Outline for TSA Report

1. Executive Summary
2. Introduction
3. General Program and Quality Management (Audit of EPA contractor's office and NPS contractor's office)
 - a. Complete General/Quality Management Forms
 - b. Findings, Discussions, Recommendations
4. Network Management
 - a. Complete Network Management, Field Support, Instrument Certification/Testing, Standards and Calibrations, and Instrument Repair Forms
 - b. Table listing the site locations, number of monitors at each location, type of monitor (SLAMS, SPM, etc...), what is measured
 - c. Findings, Discussions, Recommendations
5. Field Operations
 - a. Complete Field Overview Forms
 - b. Table that list site name, AQS ID, and pollutants monitored
 - c. Findings, Discussions, Recommendations
6. Laboratory Operations
 - a. Complete Laboratory Operations Forms
 - b. Findings, Discussions, Recommendations
7. Data and Data Management
 - a. Complete Data and Data Management Forms
 - b. Findings, Discussions, Recommendations
8. Quality Control and Quality Assurance

Appendix G. Current list of 40 CFR Part 58 Compliant CASTNET Ozone Monitoring Sites (Page 1 of 2)

SITE_ID	AQS_ID	POC	AGY	PQAO	ST	COUNTY	EPA RGN	NOTES	'11	'12	'13	'14
ABT147	090159991	1	EPA	EPA	CT	Windham	1		Y	Y	Y	Y
ASH135	230039991	1	EPA	EPA	ME	Aroostook	1		Y	Y	Y	Y
ACA416	230090103	1	NPS	ME	ME	Hancock	1		Y	Y	Y	Y
HOW132	230199991	1	EPA	EPA	ME	Penobscot	1	Discontinued 10/2012	Y	Y		
WST109	330099991	1	EPA	EPA	NH	Grafton	1		Y	Y	Y	Y
WSP144	340219991	1	EPA	EPA	NJ	Mercer	2		Y	Y	Y	Y
HWF187	360319991	1	EPA	EPA	NY	Essex	2		Y	Y	Y	Y
CTH110	361099991	1	EPA	EPA	NY	Tompkins	2		Y	Y	Y	Y
BWR139	240199991	1	EPA	EPA	MD	Dorchester	3		Y	Y	Y	Y
BEL116	240339991	1	EPA	EPA	MD	Prince George's	3		Y	Y	Y	Y
ARE128	420019991	1	EPA	EPA	PA	Adams	3		Y	Y	Y	Y
PSU106	420279991	1	EPA	EPA	PA	Centre	3		Y	Y	Y	Y
KEF112	420479991	1	EPA	EPA	PA	Elk	3		Y	Y	Y	Y
MKG113	420859991	1	EPA	EPA	PA	Mercer	3		Y	Y	Y	Y
LRL117	421119991	1	EPA	EPA	PA	Somerset	3		Y	Y	Y	Y
VPI120	510719991	1	EPA	EPA	VA	Giles	3		Y	Y	Y	Y
SHN418	511130003	1	NPS	NPS	VA	Madison	3		Y	Y	Y	Y
PED108	511479991	1	EPA	EPA	VA	Prince Edward	3		Y	Y	Y	Y
CDR119	540219991	1	EPA	EPA	WV	Gilmer	3		Y	Y	Y	Y
PAR107	540939991	1	EPA	EPA	WV	Tucker	3		Y	Y	Y	Y
SND152	010499991	1	EPA	EPA	AL	DeKalb	4		Y	Y	Y	Y
IRL141	120619991	1	EPA	EPA	FL	Indian River	4		Y	Y	Y	Y
SUM156	120779991	1	EPA	EPA	FL	Liberty	4		Y	Y	Y	Y
GAS153	132319991	1	EPA	EPA	GA	Pike	4		Y	Y	Y	Y
MAC426	210610501	1	NPS	NPS	KY	Edmonson	4		Y	Y	Y	Y
CKT136	211759991	1	EPA	EPA	KY	Morgan	4		Y	Y	Y	Y
CDZ171	212219991	1	EPA	EPA	KY	Trigg	4		Y	Y	Y	Y
MCK131	212299991	1	EPA	EPA	KY	Washington	4		Y	Y	Y	Y
MCK231	212299991	2	EPA	EPA	KY	Washington	4		Y	Y	Y	Y
CVL151	281619991	1	EPA	EPA	MS	Yalobusha	4		Y	Y	Y	Y
PNF126	370119991	1	EPA	EPA	NC	Avery	4		Y	Y	Y	Y
BFT142	370319991	1	EPA	EPA	NC	Carteret	4		Y	Y	Y	Y
COW137	371139991	1	EPA	EPA	NC	Macon	4		Y	Y	Y	Y
CND125	371239991	1	EPA	EPA	NC	Montgomery	4		Y	Y	Y	Y
GRS420	470090101	1	NPS	NPS	TN	Blount	4		Y	Y	Y	Y
SPD111	470259991	1	EPA	EPA	TN	Claiborne	4		Y	Y	Y	Y
ESP127	470419991	1	EPA	EPA	TN	DeKalb	4		Y	Y	Y	Y
BVL130	170191001	1	EPA	EPA	IL	Champaign	5		Y	Y	Y	Y
STK138	170859991	1	EPA	EPA	IL	Jo Daviess	5		Y	Y	Y	Y
ALH157	171199991	1	EPA	EPA	IL	Madison	5		Y	Y	Y	Y
VIN140	180839991	1	EPA	EPA	IN	Knox	5		Y	Y	Y	Y
SAL133	181699991	1	EPA	EPA	IN	Wabash	5		Y	Y	Y	Y
UVL124	261579991	1	EPA	EPA	MI	Tuscola	5		Y	Y	Y	Y
ANA115	261619991	1	EPA	EPA	MI	Washtenaw	5		Y	Y	Y	Y

Appendix G. Current list of 40 CFR Part 58 Compliant CASTNET Ozone Monitoring Sites (Page 2 of 2)

SITE_ID	AQS_ID	POC	AGY	PQAO	ST	COUNTY	EPA RGN	NOTES	'11	'12	'13	'14
HOX148	261659991	1	EPA	EPA	MI	Wexford	5		Y	Y	Y	Y
VOY413	271370034	1	NPS	NPS	MN	St. Louis	5		Y	Y	Y	Y
OXF122	390179991	1	EPA	EPA	OH	Butler	5		Y	Y	Y	Y
DCP114	390479991	1	EPA	EPA	OH	Fayette	5		Y	Y	Y	Y
QAK172	391219991	1	EPA	EPA	OH	Noble	5		Y	Y	Y	Y
PRK134	551199991	1	EPA	EPA	WI	Taylor	5		Y	Y	Y	Y
CAD150	050199991	1	EPA	EPA	AR	Clark	6		Y	Y	Y	Y
CHE185	400019009	1	EPA	CN	OK	Adair	6		Y	Y	Y	Y
BBE401	480430101	1	NPS	NPS	TX	Brewster	6		Y	Y	Y	Y
ALC188	483739991	1	EPA	EPA	TX	Polk	6			Y	Y	Y
PAL190	483819991	1	EPA	EPA	TX	Randall	6			Y	Y	Y
KNZ184	201619991	1	EPA	EPA	KS	Riley	7	Discontinued 4/2013	Y	Y		
SAN189	311079991	1	EPA	EPA	NE	Knox	7		Y	Y	Y	Y
GTH161	080519991	1	EPA	EPA	CO	Gunnison	8		Y	Y	Y	Y
ROM206	080699991	1	EPA	EPA	CO	Larimer	8	Site used for QA purposes in 2012 and beyond	Y			
ROM406	080690007	1	NPS	NPS	CO	Larimer	8		Y	Y	Y	Y
MEV405	080830101	1	NPS	NPS	CO	Montezuma	8		Y	Y	Y	Y
GLR468	300298001	1	NPS	NPS	MT	Flathead	8		Y	Y	Y	Y
THR422	380070002	1	NPS	ND	ND	Billings	8		Y	Y	Y	Y
WNC429	460330132	1	NPS	SD	SD	Custer	8		Y	Y	Y	Y
CAN407	490370101	1	NPS	NPS	UT	San Juan	8		Y	Y	Y	Y
CNT169	560019991	1	EPA	EPA	WY	Albany	8		Y	Y	Y	Y
BAS601	560030002	1	BLM	BLM	WY	Big Horn	8				Y	Y
PND165	560359991	1	EPA	EPA	WY	Sublette	8		Y	Y	Y	Y
YEL408	560391011	1	NPS	NPS	WY	Teton	8		Y	Y	Y	Y
NEC602	560450003	1	BLM	BLM	WY	Weston	8				Y	Y
DIN431	490471002	1	NPS	NPS	UT	Uintah	8	New site ahead of 2014 ozone season				Y
CHA467	040038001	1	NPS	NPS	AZ	Cochise	9		Y	Y	Y	Y
GRC474	040058001	1	NPS	NPS	AZ	Coconino	9		Y	Y	Y	Y
PET427	040170119	1	NPS	NPS	AZ	Navajo	9		Y	Y	Y	Y
YOS404	060430003	1	NPS	NPS	CA	Mariposa	9		Y	Y	Y	Y
PIN414	060690003	1	NPS	NPS	CA	San Benito	9		Y	Y	Y	Y
JOT403	060719002	1	NPS	NPS	CA	San Bernardino	9		Y	Y	Y	Y
LAV410	060893003	1	NPS	NPS	CA	Shasta	9		Y	Y	Y	Y
SEK430	061070009	1	NPS	NPS	CA	Tulare	9		Y	Y	Y	Y
GRB411	320330101	1	NPS	NPS	NV	White Pine	9		Y	Y	Y	Y
DEN417	020680003	1	NPS	NPS	AK	Denali	10		Y	Y	Y	Y
MOR409	530531010		NPS	NPS	WA	Pierce	10	Site discontinued end of ozone season 2013	Y	Y	Y	
Network Total Sites									77	78	78	78

* See Appendix I for details on PQAO

Appendix H. CBSA and CSA Code and Title for 2014 CASTNET Sites (Page 1 of 4)

CBSA	COUNTY	CENSUS	CENSUS YEAR	DV PPB	DV YEARS	SITE NAME	MONITOR ID
Fort Payne, AL	DeKalb	71109	2010			Sand Mountain	01-049-9991-44201-1
	Denali		2010	52	2010-2012	Denali NP	02-068-0003-44201-1
Sierra Vista-Douglas, AZ	Cochise	131346	2010	73	2010-2012	Chiricahua NM	04-003-8001-44201-1
Flagstaff, AZ	Coconino	134421	2010	72	2010-2012	Grand Canyon NP	04-005-8001-44201-1
Show Low, AZ	Navajo	107449	2010	70	2010-2012	Petrified Forest	04-017-0119-44201-1
Arkadelphia, AR	Clark	22995	2010			Caddo Valley	05-019-9991-44201-1
	Mariposa		2010	78	2010-2012	Yosemite NP - Turtleback Dome	06-043-0003-44201-1
	Mariposa		2010			Yosemite NP - Turtleback Dome - Collocated	06-043-0003-44201-2
San Jose-Sunnyvale-Santa Clara, CA	San Benito	1836911	2010	70	2010-2012	Pinnacles NM	06-069-0003-44201-1
Riverside-San Bernardino-Ontario, CA	San Bernardino	4224851	2010	94	2010-2012	Joshua Tree NP	06-071-9002-44201-1
Redding, CA	Shasta	177223	2010	67	2010-2012	Lassen Volcanic NP	06-089-3003-44201-1
Visalia-Porterville, CA	Tulare	442179	2010	95	2010-2012	Sequoia NP - Ash Mountain	06-107-0009-44201-1
	Gunnison		2010			Gothic	08-051-9991-44201-1
Fort Collins-Loveland, CO	Larimer	299630	2010	77	2010-2012	Rocky Mtn NP	08-069-0007-44201-1
Fort Collins-Loveland, CO	Larimer	299630	2010			Rocky Mtn NP Collocated	08-069-9991-44201-1
	Montezuma		2010	68	2010-2012	Mesa Verde NP	08-083-0101-44201-1
Willimantic, CT	Windham	118428	2010			Abington	09-015-9991-44201-1
Sebastian-Vero Beach, FL	Indian River	138028	2010			Indian River Lagoon	12-061-9991-44201-1
	Liberty		2010			Sumatra	12-077-9991-44201-1
Atlanta-Sandy Springs-Marietta, GA	Pike	5268860	2010			Georgia Station	13-231-9991-44201-1
Champaign-Urbana, IL	Champaign	231891	2010			Bondville	17-019-1001-44201-1
	Jo Daviess		2010			Stockton	17-085-9991-44201-1
St. Louis, MO-IL	Madison	2812896	2010			Alhambra	17-119-9991-44201-1
Vincennes, IN	Knox	38440	2010			Vincennes	18-083-9991-44201-1
Wabash, IN	Wabash	32888	2010			Salamonie Reservoir	18-169-9991-44201-1
Bowling Green, KY	Edmonson	125953	2010	75	2010-2012	Mammoth Cave NP	21-061-0501-44201-1
	Morgan		2010			Crockett	21-175-9991-44201-1

Appendix H. CBSA and CSA Code and Title for 2014 CASTNET Sites (Page 2 of 4)

CBSA	COUNTY	CENSUS	CENSUS YEAR	DV PPB	DV YEARS	SITE NAME	MONITOR ID
Clarksville, TN-KY	Trigg	273949	2010			Cadiz	21-221-9991-44201-1
	Washington		2010			Mackville	21-229-9991-44201-1
	Washington		2010			Mackville Collocated	21-229-9991-44201-2
	Aroostook		2010			Ashland	23-003-9991-44201-1
	Hancock		2010	65	2010-2012	Acadia NP	23-009-0103-44201-1
Bangor, ME	Penobscot	153923	2010			Howland	23-019-9991-44201-1
Cambridge, MD	Dorchester	32618	2010			Blackwater NWR	24-019-9991-44201-1
Washington-Arlington-Alexandria, DC-VA-MD-WV	Prince George's	5582170	2010			Beltsville	24-033-9991-44201-1
	Tuscola		2010			Unionville	26-157-9991-44201-1
Ann Arbor, MI	Washtenaw	344791	2010			Ann Arbor	26-161-9991-44201-1
Cadillac, MI	Wexford	47584	2010			Hoxeyville	26-165-9991-44201-1
Duluth, MN-WI	Saint Louis	279771	2010	63	2010-2012	Voyageurs NP	27-137-0034-44201-1
	Yalobusha		2010			Coffeeville	28-161-9991-44201-1
Kalispell, MT	Flathead	90928	2010	55	2010-2012	Glacier NP	30-029-8001-44201-1
	Knox		2010			Santee Sioux	31-107-9991-44201-1
	White Pine		2010	72	2010-2012	Great Basin NP	32-033-0101-44201-1
Lebanon, NH-VT	Grafton	174724	2010			Woodstock	33-009-9991-44201-1
Trenton-Ewing, NJ	Mercer	366513	2010			Wash. Crossing	34-021-9991-44201-1
	Essex		2010			Huntington Wildlife Forest	36-031-9991-44201-1
Ithaca, NY	Tompkins	101564	2010			Connecticut Hill	36-109-9991-44201-1
	Avery		2010			Cranberry	37-011-9991-44201-1
Morehead City, NC	Carteret	66469	2010			Beaufort	37-031-9991-44201-1
	Macon		2010			Coweeta	37-113-9991-44201-1
	Montgomery		2010			Candor	37-123-9991-44201-1
Dickinson, ND	Billings	24982	2010	58	2010-2012	Theodore Roosevelt NP	38-007-0002-44201-1
Cincinnati-Middletown, OH-KY-IN	Butler	2130151	2010			Oxford	39-017-9991-44201-1
Washington Court House, OH, AR	Fayette	29030	2010			Deer Creek	39-047-9991-44201-1
	Noble		2010			Quaker City	39-121-9991-44201-1
	Adair		2010	76	2010-2012	Cherokee Nation	40-001-9009-44201-1
Gettysburg, PA	Adams	101407	2010			Arendtsville	42-001-9991-44201-1
State College, PA	Centre	153990	2010			Penn State	42-027-9991-44201-1
St. Marys, PA	Elk	31946	2010			Kane Exp. Forest	42-047-9991-44201-1
Youngstown-Warren-Boardman, OH-PA	Mercer	565773	2010			M.K. Goddard	42-085-9991-44201-1
Somerset, PA	Somerset	77742	2010			Laurel Hill	42-111-9991-44201-1
	Custer		2010	62	2010-2012	Wind Cave NP	46-033-0132-44201-3

Appendix H. CBSA and CSA Code and Title for 2014 CASTNET Sites (Page 3 of 4)

CBSA	COUNTY	CENSUS	CENSUS YEAR	DV PPB	DV YEARS	SITE NAME	MONITOR ID
Knoxville, TN	Blount	698030	2010	79	2010-2012	Great Smoky NP - Look Rock	47-009-0101-44201-1
	Claiborne		2010			Speedwell	47-025-9991-44201-1
	DeKalb		2010			Edgar Evins	47-041-9991-44201-1
	Brewster		2010	70	2010-2012	Big Bend NP	48-043-0101-44201-1
	Polk		2010			Alabama-Coushatta	48-373-9991-44201-1
Amarillo, TX	Randall	249881	2010			Palo Duro	48-381-9991-44201-1
	San Juan		2010	69	2010-2012	Canyonlands NP	49-037-0101-44201-1
Vernal, UT	Uintah	32588	2010			Dinosaur NM	49-047-1002-44201-1
Blacksburg-Christiansburg-Radford, VA	Giles	162958	2010			Horton Station	51-071-9991-44201-1
	Madison		2010	72	2010-2012	Shenandoah NP - Big Meadows	51-113-0003-44201-1
	Prince Edward		2010			Prince Edward	51-147-9991-44201-1
Seattle-Tacoma-Bellevue, WA	Pierce	3439809	2010	54	2010-2012	Mount Rainier NP	53-053-1010-44201-1
	Gilmer		2010			Cedar Creek	54-021-9991-44201-1
	Tucker		2010			Parsons	54-093-9991-44201-1
	Taylor		2010			Perkinstown	55-119-9991-44201-1
Laramie, WY	Albany	36299	2010			Centennial	56-001-9991-44201-1
	Big Horn		2010			Basin	56-003-0002-44201-1
	Sublette		2010			Pinedale	56-035-9991-44201-1
Jackson, WY-ID	Teton	31464	2010	66	2010-2012	Yellowstone NP	56-039-1011-44201-1
	Weston		2010				

NOTES:

Design values are displayed for the 2010-2012 sampling period when data completeness is sufficient. These values originate from OAQPS' Air Trends website: <http://epa.gov/airtrends/values.html>

CBSA = Core Based Statistical Area - A statistical geographic entity consisting of the county or counties associated with at least one core (urbanized area or urban cluster) of at least 10,000 population, plus adjacent counties having a high degree of social and economic integration with the core as measured through commuting ties with the counties containing the core.

Appendix H. CBSA and CSA Code and Title for 2014 CASTNET Sites (Page 4 of 4)

CSA = Combined Statistical Area – A geographic entity consisting of two or more adjacent Core Based Statistical Areas (CBSAs) with employment interchange measures of at least 15.

MSA = Metropolitan Statistical Area - A Core Based Statistical Area associated with at least one urbanized area that has a population of at least 50,000.

μSA = Micropolitan Statistical Area - A Core Based Statistical Area associated with at least one urban cluster that has a population of at least 10,000, but less than 50,000.

Definitions of statistical areas are from the Office of Management and Budget Federal Register Notice Vol 65, No. 249. December 27, 2000.

<http://www.whitehouse.gov/sites/default/files/omb/fedreg/metroareas122700.pdf>

Appendix I. Summary of CASTNET Ozone Monitoring Sites - 2014

2014 SUMMARY

2014 Sites CASTNET ozone sites	2014 Part 58 Compliant sites
79	78
EPA/CAMD – PQA0 1344	NPS/ARD – PQA0 0745
52	21
BLM-WY - PQA0 1366	Cherokee Nation – PQA0 905
2	1
SD-DENR – PQA0 0973	ND-DOH – PQA0 0782
1	1
ME-DEP – PQA0 0635	
1	

Principal Quality Assurance Organization (PQA0) as identified within the AQS AMP480 report.

1344 – Environmental Protection Agency – Clean Air Markets Division

0745 – National Park Service – Air Resources Division

1366 – Bureau of Land Management – Wyoming office

905 – Cherokee Nation

0973 – South Dakota – Department of Environment and Natural Resources

0782 – North Dakota – Department of Health

0635 – Maine Department of Environmental Protection – Bureau of Air Quality Control