

# Data Certification

Overview

Updated March 28, 2016

# You are formally certifying:

- \* All ambient data collected from SLAMS and SPM monitors utilizing FRM and FEMs (CFR 58.15) have been validated and are accurate to the best of your knowledge
- \* All required Precision and Accuracy data for the above data have been submitted to AQS

# Why Data Certification is Important

- \* Ensures data quality and integrity
- \* Required before U.S. EPA can use data in regulatory actions
- \* Required in EPA Region 9 for clean data findings, designations of attainment, etc.
- \* Ensures data are defensible in litigation

# What is ARB's Role?

Responsible for submitting data certification package to Region 9—for data we submit to AQS

- \* Includes letter and AMP600 Report
- \* Includes data certification letters from Districts for whom we upload data

***Districts that submit data to AQS are responsible for their own data certification to Region 9***

# If ARB submits your data, what is your responsibility?

- \* Quarterly: Review AQS reports for sites in your area
- \* March/early April each year:
  - Review AMP600 report for your sites or other AQS reports as needed
  - Work with ARB to resolve any data issues identified in AMP600 report
- \* Email signed certification letter to ARB no later than April 15<sup>th</sup> so that your data can be included in annual certification (example letter on next slide)

# Example Certification Letter

*[Insert Your District Header Information Here]*

*[Insert Date]*

Ms. Gayle Sweigert  
California Air Resources Board  
1001 I Street, 7<sup>th</sup> Floor  
Sacramento, California 95814

Dear Ms. Sweigert:

The *(specify district)* is responsible for submitting air quality and precision data to the Air Resources Board (ARB) for submittal to the Air Quality System (AQS) for those monitors that are under the control of the District. In support of the requirements in Title 40, Code of Federal Regulation (40 CFR), Part 58, this letter certifies that the District has reviewed the ambient concentration data and the quality assurance data for the *(specify year)* and attests that the ambient data are accurate and complete to the best of our knowledge taking into consideration the quality assurance findings. We recommend the data for certification.

At this time the District is not recommending certification of the following data: (specify pollutants, site name, AQS ID number, and reason for not recommending certification)

*Specify any other data that the District has partial/shared responsibility for generating (filter-based PM<sub>10</sub>, PM<sub>2.5</sub>, toxics, etc.) and identify the agency responsible for generating and submitting the data to AQS.*

The AQS data certification report (AMP 600) was reviewed as part of the data certification process.

Sincerely,

*[Insert Name of Authorized District Monitoring Manager or APCO]*

# Recommended Quarterly Data Checks

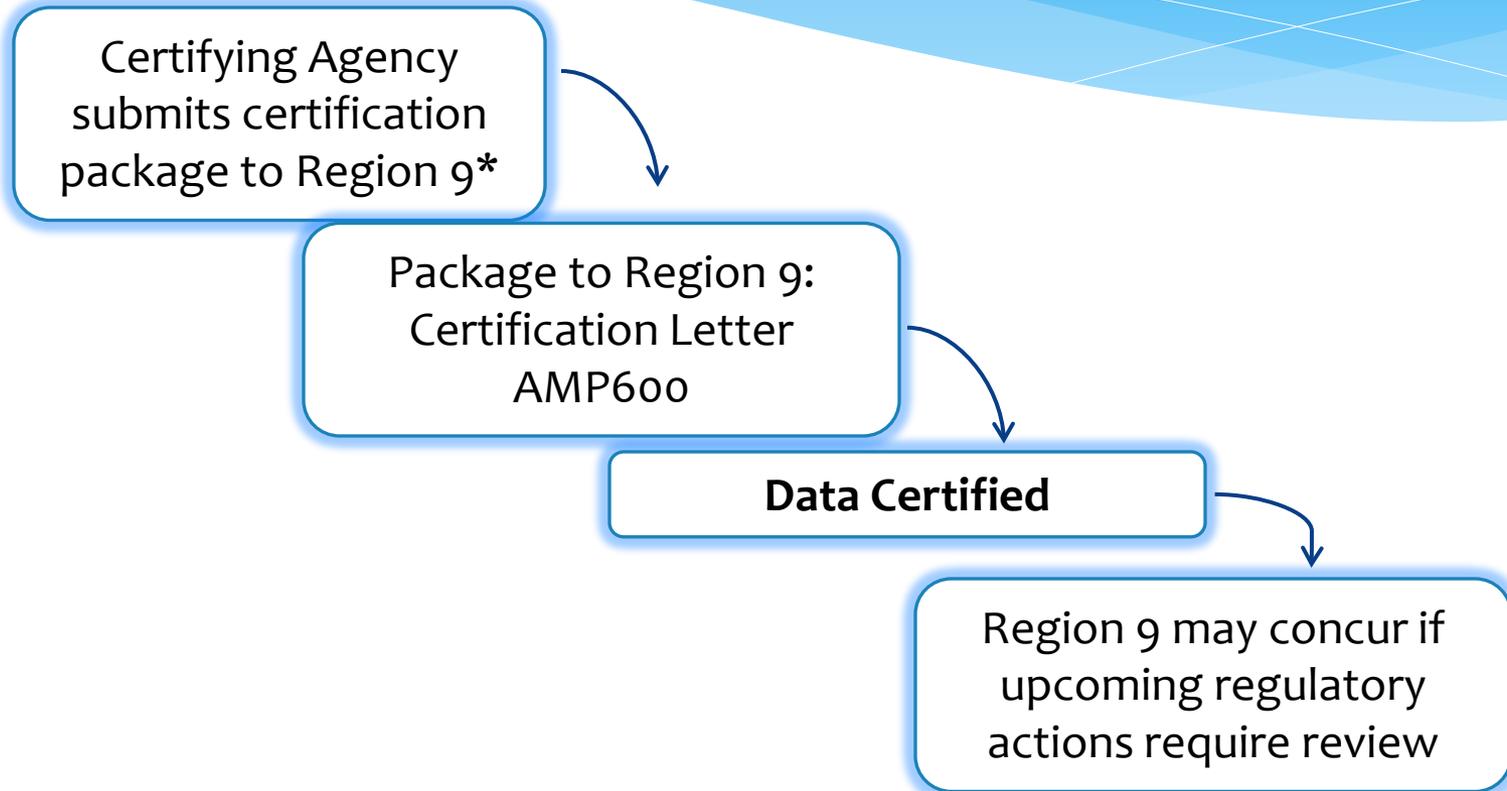
Conduct the following checks quarterly, in order to check that the data are correct:

- Run Data Completeness Report (AMP430)
  - ✓ Allows you to see if any monitor had low data capture in a particular month, and determine if there are any errors in AQS data entry.
- Review Raw Data Reports (AMP350)
  - ✓ Look for things such as: data flags, high and low data points, gaps in data, repeating numbers. (A Maximum Values Report (AMP440) can also provide the max values; a Raw Data Qualifier Report (AMP360) will list the null and QA qualifier codes)
- Run QA Data Quality Indicator Report (AMP256)

# Navigating the Process

The slide features a solid blue background. At the bottom, there are several overlapping, wavy lines in various shades of blue, creating a decorative, wave-like effect.

# Overview of Data Certification Process



\* If ARB submits your data, then submit your certification package to ARB instead

# Overview of Data Certification Process

## Step 1: AMP600 Basics

- \* Run the AMP600 report
- \* The report :
  - \* Shows recommended certification for each monitor based on Part 58 criteria
  - \* Identifies any incomplete ambient or precision and accuracy data

## Step 2: AMP600 Review

- \* Are there any missing ambient or QA/QC data?
- \* Are there any data that should not be certified based on QA/QC results?

# The Process

## Step 3: AMP600 Update

- \* Update AQS if any data missing
- \* Re-run AMP 600 Report
- \* Take all steps necessary to correct or justify the data
- \* Justification comments should be brief

## Step 4: AMP 600 Submittal

- \* Assemble final AMP600 report and certification letter and submit to Region 9
- \* Include AMP450NC if certifying PAMS data or non-criteria data (optional)
- \* Submit to Region 9

# Process if ARB Certifies Your Data

- \* Review AMP600 Report for your District sites
- \* Identify any missing data and make arrangements with ARB to upload the data
- \* Provide justification for missing data and for sites that AQS recommends against certification in your certification letter (More to come on this soon!)
- \* Prepare data certification letter and submit to ARB by ***April 15<sup>th</sup>***

# AMP600 Report Example

# AMP600 Report: Understanding It

- \* Two parts to report
- \* Part One: Summary of monitors recommended against certification
- \* Part Two: Complete information for each monitor

# Section 1

## Data Evaluation and Concurrence Report Summary

Mar. 25, 2015

**Certification Year:** 2014  
**Certifying Agency (CA):** California Air Resources Board (0145)

**Pollutants in Report:**

<u>Parameter Name</u>	<u>Code</u>	<u>Monitors Evaluated</u>	<u>Monitors Recommended for Concurrence by AQS</u>	<u>Monitors NOT Recommended for Concurrence by AQS</u>
Ozone	44201	55	39	16

**PQAOs in Report:**

<u>PQAO Name</u>	<u>PQAO Code</u>	<u>TSA Date</u>
California Air Resources Board	0145	09/27/11

**Summary of 'N' flags for all pollutants:**

<u>PQAO</u>	<u>Code</u>	<u>AQS Site-ID</u>	<u>POC</u>	<u>AQS Recommended Flag</u>	<u>Cert. Agency Recommended Flag</u>	<u>Reason for AQS Recommendation</u>
0145	44201	06-017-0020	1	N		1-Point QC Completeness < 65%.
0145	44201	06-103-0005	1	N		1-Point QC Completeness < 65%.
0145	44201	06-025-4003	1	N		Annual Summary completeness < 70%.
0145	44201	06-025-4003	1	N		1-Point QC Completeness < 65%.
0145	44201	06-025-4003	1	N		Annual Performance Evaluation Audit Missing or 1 Level.
0145	44201	06-025-4004	1	N		Annual Summary completeness < 70%.
0145	44201	06-043-0006	1	N		1-Point QC Completeness < 65%.
0145	44201	06-045-0008	1	N		1-Point QC Completeness < 65%.
0145	44201	06-057-0007	1	N		1-Point QC Completeness < 65%.
0145	44201	06-061-0003	1	N		1-Point QC Completeness < 65%.
0145	44201	06-061-0004	1	N		1-Point QC Completeness < 65%.
0145	44201	06-061-1004	1	N		1-Point QC Completeness < 65%.
0145	44201	06-061-2002	1	N		1-Point QC Completeness < 65%.
0145	44201	06-067-0010	1	N		1-Point QC Completeness < 65%.
0145	44201	06-093-2001	1	N		1-Point QC Completeness < 65%.
0145	44201	06-101-0004	1	N		1-Point QC Completeness < 65%.
0145	44201	06-103-0004	1	N		1-Point QC Completeness < 65%.
0145	44201	06-023-1005	1	N		1-Point QC Completeness < 65%.

**Signature of Monitoring Organization Representative:** \_\_\_\_\_

# Section 2

## Data Evaluation and Concurrence Report for Gaseous Pollutants

Certifying Year 2014  
 Certifying Agency Code California Air Resources Board (0145)  
 Parameter Ozone (44201) (ppm)

PQAO Name California Air Resources Board (0145)  
 QAPP Approval Date 07/27/2007

**NPAP Audit Summary:** Number of Valid Audits NPAP Bias Criteria Met  
 4 -3.0980 Y

AQS Site ID	POC Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		Concur. Flag			
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
06-005-0002	1 SLAMS	0.051	0.013	0.094	0	0	94	2.79	+/-1.37	100	4.13	100	Y	Y	Y			
06-007-0007	1 SPM	0.051	0.026	0.116	0	0	96	2.07	-1.91	100	- 6.01	100	Y	Y	Y			
06-007-0008	1 SLAMS	0.046	0.016	0.096	0	0	95	4.30	+/-3.43	100	- 3.56	100	Y	Y	Y			
06-009-0001	1 SLAMS	0.049	0.017	0.088	0	0	95	3.02	+3.29	100	- 6.37	100	Y	Y	Y			
06-011-1002	1 SLAMS	0.044	0.011	0.072	0	0	95	2.10	+/-1.70	100	- 4.18	100	Y	Y	Y			
06-017-0010	1 SLAMS	0.053	0.018	0.104	0	0	95	5.32	+/-4.32	100	3.00	100	Y	Y	Y			
06-017-0020	1 SPM	0.066	0.039	0.094	0	0	90	3.00	+/-1.69	54	- 6.07	100	Y	Y	N			
06-019-0011	1 SLAMS	0.057	0.010	0.112	0	0	94	2.34	-3.72	100	0.22	100	Y	Y	Y			
06-021-0003	1 SLAMS	0.046	0.015	0.081	0	0	95	1.48	+1.95	100	- 6.12	100	Y	Y	Y			
06-023-1004	1 SPM	0.031	0.009	0.052	0	0	93	1.54	+/-1.66	69	- 6.65	100	Y	Y	Y			
06-023-1005	1 SPM	0.030	0.013	0.049	0	0	96	6.92	-11.21	58	- 2.72	100	Y	Y	N			
06-025-0005	1 SLAMS	0.055	0.017	0.105	0	0	89	3.62	+/-3.18	92	- 0.22	100	Y	Y	Y			
06-025-1003	1 SLAMS	0.059	0.023	0.096	0	0	71	1.48	+/-1.22	77	- 0.22	100	Y	Y	Y			
06-025-4003	1 SLAMS				0	0	0					0	Y	Y	N			
06-025-4004	1 SLAMS	0.055	0.034	0.081	0	0	44	5.21	+/-3.64	77	- 3.39	100	Y	Y	N			
06-029-0007	1 SLAMS	0.063	0.017	0.107	0	0	88	6.62	-7.14	96	- 0.37	100	Y	Y	Y			
06-029-0011	1 SLAMS	0.065	0.028	0.104	0	0	90	1.66	+/-1.36	100	7.26	100	Y	Y	Y			
06-029-0014	1 SLAMS	0.058	0.020	0.102	0	0	84	5.07	+/-4.56	92	- 7.31	100	Y	Y	Y			
06-029-0232	1 SLAMS	0.054	0.018	0.093	0	0	94	3.16	-4.00	100	4.68	100	Y	Y	Y			
06-029-5002	1 SLAMS	0.064	0.024	0.109	0	0	95	1.77	+2.42	100	- 5.90	100	Y	Y	Y			
06-029-6001	1 SLAMS	0.056	0.017	0.100	0	0	96	3.11	+/-2.80	100	- 5.77	100	Y	Y	Y			
06-033-3001	1 SLAMS	0.046	0.020	0.070	0	0	94	0.68	+2.91	100	1.14	100	Y	Y	Y			
06-043-0006	1 SPM	0.063	0.039	0.091	0	0	81	2.74	+5.14	50	- 2.18	100	Y	Y	N			
06-045-0008	1 SLAMS	0.038	0.013	0.067	0	0	95	4.09	+4.33	42	- 3.03	100	Y	Y	N			
06-057-0007	1 SPM	0.061	0.036	0.093	0	0	93	1.85	-3.63	54	3.22	100	Y	Y	N			
06-061-0003	1 SLAMS	0.051	0.016	0.097	0	0	99	0.21	-0.34	23	- 3.74	100	Y	Y	N			
06-061-0004	1 SLAMS	0.050	0.022	0.089	0	0	95	0.52	-0.50	23	- 14.68	100	Y	Y	N			

# Explanation of Data Included

## Data Evaluation and Concurrence Report for Gaseous Pollutants

**Certifying Year** 2014  
**Certifying Agency Code** California Air Resources Board (0145)  
**Parameter** Ozone (44201) (ppm)

**PQAO Name** California Air Resources Board (0145)  
**QAPP Approval Date** 07/27/2007

**NPAP Audit Summary:**

Number of Valid Audits	NPAP Bias	Criteria Met
4	-3.0980	Y

AQS Site ID	POC Monitor Type	Routine Data						One Point Quality Check			Annual PE		NPAP		Concur. Flag			
		Mean	Min	Max	Exceed. Count	Outlier Count	Perc. Comp.	Precision	Bias	Complete	Bias	Complete	Bias	PQAO Level Criteria	QAPP Appr.	Aqs Rec Flag	CA Rec Flag	Epa Concur
06-005-0002	1 SLAMS	0.051	0.013	0.094	0	0	94	2.79	+/-1.37	100	4.13	100	Y	Y	Y			
06-007-0007	1 SPM	0.051	0.026	0.116	0	0	96	2.07	-1.91	100	- 6.01	100	Y	Y	Y			
06-007-0008	1 SLAMS	0.046	0.016	0.096	0	0	95	4.30	+/-3.43	100	- 3.56	100	Y	Y	Y			
06-009-0001	1 SLAMS	0.049	0.017	0.088	0	0	95	3.02	+3.29	100	- 6.37	100	Y	Y	Y			
06-011-1002	1 SLAMS	0.044	0.011	0.072	0	0	95	2.10	+/-1.70	100	- 4.18	100	Y	Y	Y			
06-017-0010	1 SLAMS	0.053	0.018	0.104	0	0	95	5.32	+/-4.32	100	3.00	100	Y	Y	Y			
06-017-0020	1 SPM	0.066	0.039	0.094	0	0	90	3.00	+/-1.69	54	- 6.07	100	Y	Y	N			

# Common Reasons against Certification

- \* 1 Point QC Completeness <65%
- \* Annual summary (ambient data) completeness <70%
- \* Flow rate verification completeness <70%
- \* Flow rate audit completeness <65%
- \* Annual Performance Audit Missing
- \* PQAO Collocation requirement not met

# Lessons Learned

- Approximately 90% of data certification issues are tied to data completeness (ambient and P/A)
  - ✓ Getting the data into AQS resolves these issues
- Data certification is getting better, smoother and simpler
  - ✓ If we concur that data cannot be certified, then no justification is needed
  - ✓ If we disagree, then we replace the “No” flag with a “Yes” flag and provide a short justification

# Example of Justified Data

**Certifying Year:** 2012

**Certifying Agency:** California Air Resources Board (0145)

**Parameter:** PM10 Total 0-10um STP (81102) INTERMITTENT

**PQAO Name:** California Air Resources Board (0145)

**Quality Assurance Project Plan Approval Date:** 07/27/2007

## Collocation Summary

# Sites	# Sites Req	# Sites Collocated	% Collocated	CV Est	CV UB	Criteria Met?
68	10	5	50	5.06	5.46	N

Justification and justification flag

## Monitors Summaries

AQS Site ID	POC	Monitor Type	Routine Data (ug/m3)						Flow Rate Audit		Collocation			Concurrence Flag			
			Mean	Min	Max	Exceed. Count	Outlier Count	% Complete	Bias	% Complete	% Complete	PQAO Crit. Met	QAPP Appr.	AQS Rec. Flag	CA Rec. Flag	EPA Eval.	
06-007-0002	1	SLAMS	18.33	3.0	37.0	0	0	100	-0.51	100	N	Y	N	Y	S		
Submitter Comment:		Monitor closed at Chico-Manz; data are considered accurate							EPA Comment:								
06-007-0008	1	SLAMS	20.11	3.0	55.0	0	0	100	-0.12	100	N	Y	N	Y	S		
Submitter Comment:		Data are considered accurate							EPA Comment:								
06-009-0001	1	SLAMS	15.28	2.0	44.0	0	0	98	+0.26	100	N	Y	N	Y	S		
Submitter Comment:		Data are considered accurate							EPA Comment:								
06-011-1002	2	SLAMS	22.71	3.0	94.0	0	0	90	+2.86	100	N	Y	N	Y	S		
Submitter Comment:		Data are considered accurate							EPA Comment:								
06-015-0006	1	SLAMS	14.48	2.0	35.0	0	0	95	-0.12	100	N	Y	N	Y	S		
Submitter Comment:		Data are considered accurate							EPA Comment:								
06-019-0007	1	SLAMS	33.12	5.0	81.0	0	0	83	-0.25	100	14.01	40	N	Y	N	Y	S
Submitter Comment:		Data are considered accurate							EPA Comment:								
06-019-0007	2	SLAMS	42.33	4.0	114.0	0	0	100			N	Y	N	Y	S		
Submitter Comment:		Data are considered accurate							EPA Comment:								
06-019-5001	1	SLAMS	28.59	4.0	74.0	0	0	96	+2.19	100	N	Y	N	Y	S		
Submitter Comment:		Data are considered accurate							EPA Comment:								

# For ARB Certified *DISTRICT* Data:

	District	Contact
1-Point QC	Submit to ARB	Ranjit Bhullar, ranjit.bhullar@arb.ca.gov
Annual Summary Completeness	Submit to ARB	Craig Anderson, craig.anderson@arb.ca.gov
Flow Rate Verification	Submit to ARB	Ranjit Bhullar, ranjit.bhullar@arb.ca.gov
Missing Audit Information		Ranjit Bhullar, ranjit.bhullar@arb.ca.gov

# Other Reasons Against Certification

## ***QAPP Not Approved***

Contact Patrick Rainey ([patrick.rainey@arb.ca.gov](mailto:patrick.rainey@arb.ca.gov))

## ***PQAO Collocation Not Met***

ARB Recommends Certification in this instance

ARB provides justification for collocation issues

ARB is working to resolve collocation issues

***No further action on this needed if ARB certifies your data***

# Final Certification Package

- \* Certifying agency drafts letter that includes required CFR language
  - “...completely submitted to the best of my knowledge...”
- \* Acknowledge any data that are not being certified in the letter
- \* Certifying agency signs the AMP600 report
- \* It is the LETTER that certifies your data. The AQS reports are a TOOL that helps you certify the data

# Data Certification Resources

- \* 2015 Data Certification Memo from U.S. EPA
- \* U.S. EPA RSS feed
  - \* <http://yosemite.epa.gov/opa/admpress.nsf/RSS/air?opendocument>
- \* Data Certification 2013 webinar U.S. EPA
  - \* <http://www.epa.gov/ttn/airs/airsaqs/training/AQSwebinarApril2013.wmv>
- \* Data Certification Slides From PQAO Training
  - \* <http://www.epa.gov/ttn/airs/airsaqs/training/Data%20Cert%20Explantion%20slides.pdf>
- \* PQAO Liaisons
  - \* <http://www.arb.ca.gov/aaqm/qa/qa.htm>
- \* Region 9: Fletcher Clover
  - \* [clover.fletcher@epa.gov](mailto:clover.fletcher@epa.gov)

# AQS INFORMATION

# Accessing AQS

- \* Register for a User ID and password
  - \* Fill out and sign *AQS User Registration and Security Guidelines* forms, available at <http://www.epa.gov/ttn/airs/airsaqs/registration.htm>
  - \* Mail or FAX both sheets to EPA, NADG (919) 541-7674 or via email to [EPACallCenter@epa.gov](mailto:EPACallCenter@epa.gov)
- \* Once registered, you will be emailed an AQS Userid and password.
- \* To launch AQS, use your Java-enabled web browser to go to <http://www.epa.gov/ttn/airs/airsaqs/aqsweb/>

# Resources

- \* EPA Region 9: Fletcher Clover (415) 972-3991, [clover.fletcher@epa.gov](mailto:clover.fletcher@epa.gov)
- \* EPA Call Center: (866) 411-4372, [EPACALLCENTER@epa.gov](mailto:EPACALLCENTER@epa.gov)



# U.S. ENVIRONMENTAL PROTECTION AGENCY

## Technology Transfer Network (TTN) Air Quality System (AQS)

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- Manuals & Guides
- Obtaining AQS Data
- Precision and Accuracy Data
- AQS Conferences
- Frequent Questions
- Memos
- User Registration
- Training
- Online Training
- User Support & Agency Contacts
- Related Links

The Air Quality System (AQS) is EPA's repository of ambient air quality data. AQS stores data from over 10,000 monitors, 5000 of which are currently active. As discussed in more detail elsewhere, State, Local and Tribal agencies collect the data and submit it to AQS on a periodic basis.

This area is primarily intended for direct users of AQS, i.e., those in the state, local and tribal agencies and within EPA who load data into the AQS database or use data from this database for analysis.

[Basic Information](#) - Brief description of the purpose of the Air Quality System.

[AQS Conferences](#) - Information about upcoming conferences and handouts from the previous conferences. These conferences are generally held once each year.

[AQS Web Application](#) - Pathway to the AQS web application where registered users load and maintain AQS data, and retrieve reports. Release notes are also found here.

[Frequent Questions](#) - Questions and answers about AQS, sorted by topic.

[AQS Discoverer](#) Pathway to the web version of the ad hoc query tool from Orade Corporation. (For registered users only.)

[Memos](#) - Memos and E-mails generally sent to all registered AQS users. (Release notes for the AQS Web application are found via the AQS Web Change Log page.)

[Manuals & Guides](#) - AQS Manuals and User Guides available for on-line browsing or downloading, including the AQS Coding Manual, Data Dictionary, Input Transaction Format, and User Guides.

[User Registration](#) - Steps to obtain an AQS User ID. Generally, only personnel from federal, state, local, or tribal agencies providing data to the EPA or analyzing that data for their agency may register.

[Obtaining AQS Data](#) - How to get AQS data if you are not a registered AQS user or you need detailed data for years prior to 10 years ago. There are also links to over 100 files with national data for downloading.

- Quick Links**
- New User Registration
  - AQS Codes
  - Data Files
  - Recent Additions
  - AQS App Change Log

[Training](#) - Schedule of upcoming training sessions and training materials available for downloading.

[Online Training](#) - Video Online training sessions

[Contacts](#) - Contact information for AQS and CDX help, EPA headquarters and regional staff as well as state/local/tribal representatives.

[Related Links](#) - Links to other sites that have information related to Air Quality.

[AQS Tools](#) - Download tools that compliment AQS (AQS QA Transaction Generator)

[RSS Feed - AOS User Info](#)

Standard Report Criteria Selection (Read Only) AMP600

Criteria Set | Data Selection | Sort Order | Report Options | Retrieve Reports

Criteria Set  Desc

Owner   Type

Report Code  Report Name

Reports

Find %

Rep_Report_Code	Report_Name
AMP410	AIR QUALITY INDEX REPORT
AMP410S	AIR QUALITY SUMMARY REPORT
AMP600	CERTIFICATION EVALUATION AND CONCL
AMP355	COMBINED SITE SAMPLE VALUES
G74	CR RAW DATA
AMP435	DAILY SUMMARY REPORT
AMP430	DATA COMPLETENESS REPORT
AMP480	DESIGN VALUE REPORT
AMP502	EXTRACT P/A DATA
AMP504	EXTRACT QA DATA
AMP501	EXTRACT RAW DATA
AMP503	EXTRACT SAMPLE BLANK DATA
AMP500	EXTRACT SITE/MONITOR DATA
AMP230	FREQUENCY DISTRIBUTION REPORT
AMP440	MAXIMUM VALUES REPORT
AMP390	MONITOR DESCRIPTION REPORT
AMP220D	MONITOR NETWORK REPORT

AQS

Action Help Session Admin Retrieval Maintenance Critical Rev Certification Batch Correct Main Menu

Standard Report Criteria Selection (Read Only) AMP600

Criteria Set | Data Selection | Sort Order | Report Options | Retrieve Reports

### Monitor / Geographic Criteria

State Code	County Code	Site Id
06	079	

### Protocol Criteria

Pollutant Type	Parameter Code
CRITERIA	

### Date Criteria

Start Date	End Date
2014	2014



Agency Role: CERTIFYING

### Agency

0145	California Air Resources Board

**Generate Report**