

Introduction to Standard Reports



How to get information out of AQS

- Via AQS Standard Reports
 - Run from AQS
 - Requires AQS user-id and password
- Via Non AQS Data Sources using AQS Data
 - Data Mart
 - Air Data
 - Discoverer and Discoverer Replacement



Site & Monitor Reports

- Site metadata
 - Location, nearby streets
 - Open Path Set Up
 - Which PM_{2.5}, lead or NO₂ Monitor is the Primary Monitor
 - AMP380 (Site Description)
- Monitor metadata
 - How a given pollutant is measured
 - Sampling length
 - Monitoring frequency
 - Agencies responsible for the monitor and analysis
 - Monitoring objectives
 - Collocation information
 - AMP 390 (Monitor description), AMP220 (Monitor Networks)



Detail Data Reports

- “Raw” data from AQS
 - Can import information into spreadsheet for further processing
 - Open Path Set Up
- Extraction Reports
 - Provide data in AQS transaction format with Insert, Delete or Update codes
 - Useful for duplicating and reloading data
 - AMP500 – Extract Site/Monitor data, AMP501 (Extract Raw Data), AMP503 (Extract Blanks data), AMP350, AMP350MX, AMP350P, AMP350NW (Raw Data records)



Summary Data Reports

- Contains the calculated summary values from AQS
 - Multi-hour Averages (e.g. 8-hour running average)
 - Daily Summaries
 - Site Summaries (PM_{2.5} and Lead Only)
 - Quarterly Summaries
 - Annual Summaries
 - Site Annual Summaries (PM_{2.5} and Lead Only)
 - AMP450 (Quick Look), AMP435 (Daily Summary), AMP355 (Combined Site Sample Values)



Quality Assurance Reports

- Quality Assurance Reports
 - Provide Detail and Summary data on Quality Assurance measures
 - AMP256 (QA Data Quality Indicator Report)
 - AMP251 (QA Raw Assessment report)
 - AMP504 (Extract QA Data)



Raw Data Qualifier report

- Raw data points that have qualifiers
 - Null data code qualifiers
 - Quality assurance qualifiers
 - Exceptional event qualifiers
 - Includes any Regional Office concurrence information
 - AMP360 – Raw Data Qualifier report



Data Certification Reports

- Used to Certify Quality Assurance Measurements
- AMP600 – Certification Evaluation and Concurrence Report



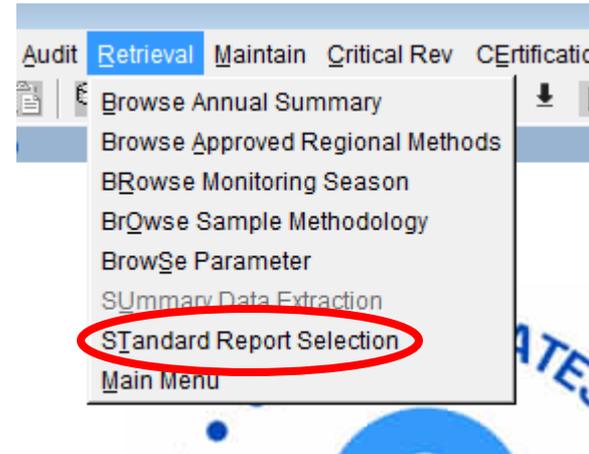
Design Values Report

- Generates the statistics used for NAAQS determinations.
- Also allows the 1) assessment of the effect of exceptional event flagging on Design Values, and 2) the assessment of attainment issues based on partial data.
- AMP480 – Design values report



Standard Reports

- Retrieval
 - Standard report selection



The Process of Creating a Report – Choosing the “Criteria Set”

1. Select report (Report Code field)
2. Specify Output type (Report, Workfile, XML)
3. Establish report-selection criteria
 1. Geography
 2. Pollutants
 3. Date
 4. Screening group
4. Modify report Sort Order criteria (where available)
5. Modify output Report Options (where available)
6. Generate Report
7. As you leave Reports form, prompted to save the Criteria Set.

General Issues

- Do NOT run reports without specifying some limiting selection criteria
- Almost all reports require date-selection criteria
- Sort Order and Report Options available on reports where data structure allows
- Oracle provides output in several formats. PDF generally most reliable.
- Do not use the initial browser window (that started AQS) for any other purpose. If not blank gray, reports will not run properly.
- Email vs online delivery



Standard Reports: Criteria Set

Standard Report Criteria Selection (National Air Data Group)

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

Criteria Set [] Desc []

Owner [CHRIS CHAPMAN] Type [PRIVATE]

Report Code [] Report Name []

Run Online

Send via Email

**Step 1:
Pick Your Report**

Generate Report



Overview of “and/or” in selections

Standard Report Criteria Selection (National Air Data Group) AMP350

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

Monitor / Geographic Criteria

State Code	County Code	Site Id	Parameter Code	POC	City Code	AGCR Code	UAR Code	CBSA Code	CSA Code	EPA Region Code

Protocol Criteria

Pollutant Type	Parameter Code	Method Code	Duration Code
CRITERIA			

Date Criteria

Start Date: YYYY MM DD
End Date: YYYY MM DD

Screening Group

Monitor Network

Monitor Type

Ge

- AND within a row
 - State and county AND site AND parameter AND method AND duration...
- OR between rows in block
 - State/County OR State/County or...
- AND between blocks
 - State AND Pollutant AND date...



Example 2: and/or in Selections (cont.)

Standard Report Criteria Selection (National Air Data Group) AMP350

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

Monitor / Geographic Criteria

State Code	County Code	Site Id	Parameter Code	POC	City Code	AQCR Code	UAR Code	CBSA Code	CSA Code	EPA Region Code
36										01

Protocol Criteria

Pollutant Type	Parameter Code	Method Code	Duration Code
CRITERIA			

Date Criteria

Start Date: YYYY MM DD
 1998 01 01

End Date: YYYY MM DD
 1998 01 31

Screening Group

Agency Role: PQA0

Monitor Network

Monitor Type

- All criteria monitors in New York or New England during January '98
- (State 36 OR region 01) AND (only criteria pollutants) AND (>19980101 AND <19980131)



Example 3: and/or in Selections (cont.)

Standard Report Criteria Selection (National Air Data Group) AMP350

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

Monitor / Geographic Criteria

State Code	County Code	Site Id	Parameter Code	POC	City Code	AQCR Code	UAR Code	CBSA Code	CSA Code	EPA Region Code
36										01

Protocol Criteria

Pollutant Type	Parameter Code	Method Code	Duration Code
CRITERIA	44201		
CRITERIA	42401		

Date Criteria

Start Date	End Date
YYYY MM DD	YYYY MM DD
1998 01 01	1998 01 31

Screening Group

Monitor Network

Monitor Network	M

- Ozone or sulfur dioxide monitors in New York and Region 1 during January '98
- (State 36 AND region 01) AND (44201 OR 42401) AND (>19980101 AND <19980131)
- This is a Null dataset, "No Data found"



Standard Reports: Sort Order

Standard Report Criteria Selection (National Air Data Group) AMP350

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

Sort Order

Order	Column Name	Allowed Range	
		Lo	Hi
1	STATE_CODE	1	5
2	COUNTY_CODE	1	5
3	SITE_ID	1	5
4	PARAMETER_CODE	1	5
5	POC	1	5

↑ Move highlighted column up

↓ Move highlighted column down

Generate Report Restore Report Defaults



Report options to consider

- Applicable standard
 - Depends on the pollutant(s) you choose
- Exceptional events – on summary reports, show summary data with EDT ID
 - 0
 - 0 – No data has been flagged
 - OR
 - 1, 2, and 5
 - 1 – The summary excludes all flagged data
 - 2 – The summary does not exclude any data
 - 5 – The summary excludes regionally concurred flagged data
 - The Design Value reports (AMP480) only use 1,2 and 5



Standard Reports: Report Options

Standard Report Criteria Selection (National Air Data Group) AMP480

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

SINGLE EVENT PROCESSING	EXCLUDE REGIONALLY CONCURRED E
WORKFILE DELIMITER	,
USER SITE METADATA	STREET ADDRESS
MERGE PDF FILES	YES
QUARTERLY DATA IN WORKFILE	NO

Option Values

Find %

Option_Value

- INCLUDE EVENTS
- EXCLUDE EVENTS
- EXCLUDE REGIONALLY CONCURRED EVENTS

Find OK Cancel

Applicable Standards Information

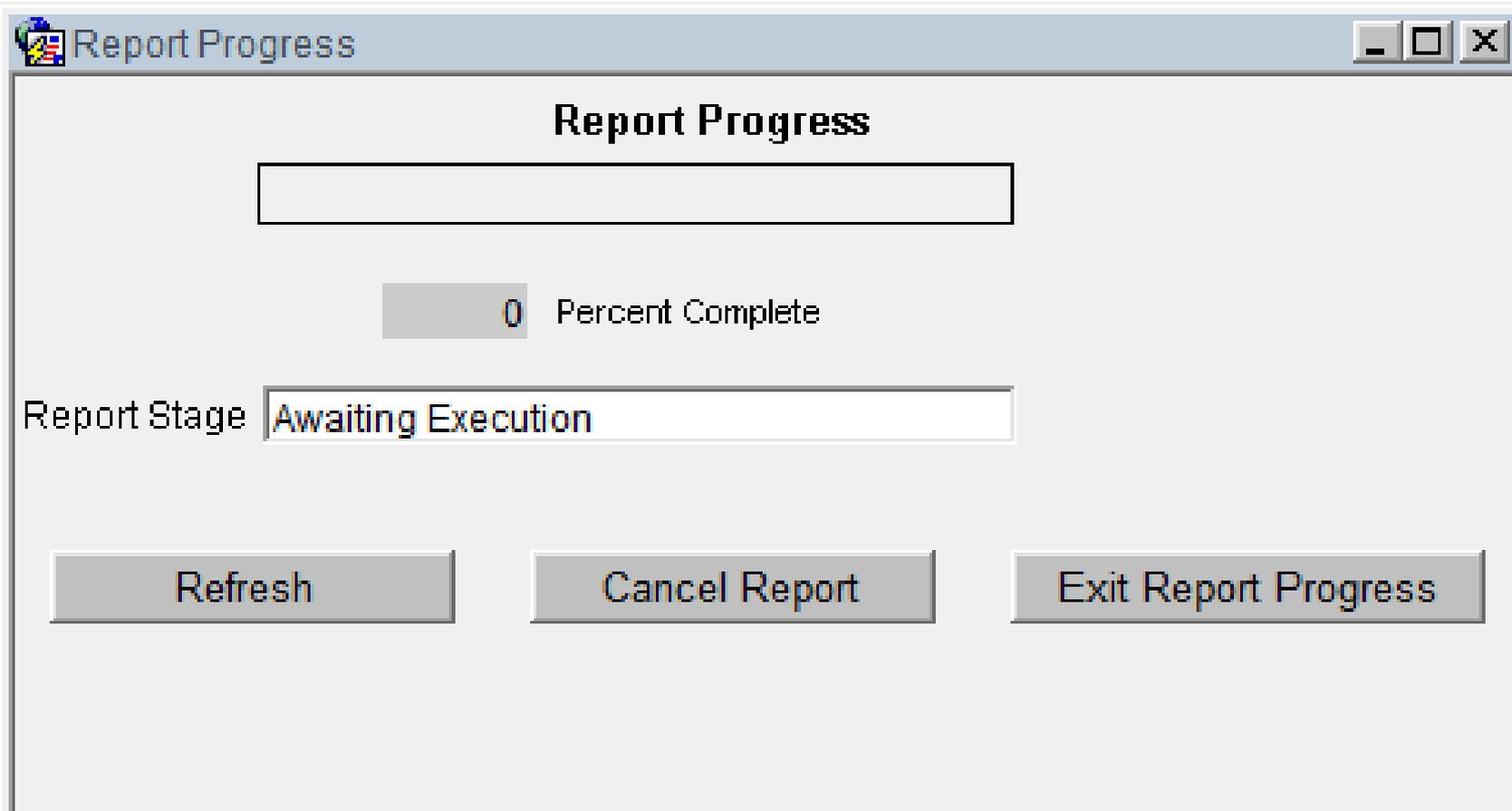
Lead 3-Month 2009
Ozone 8-Hour 2008
PM10 24-hour 2006
SO2 1-hour 2010
NO2 1-hour
PM25 24-hour 2013
PM25 Annual 2013

Generate Report

Defaults are shown; Where applicable, the drop



Standard Reports: Progress Popup



Saving a Criteria Set

- Saves the Query... Not the Results of the Query
- Go to the “Criteria Set” Tab
 - 1) Enter a Name
 - 2) Enter a Description
 - 3) Mark as
 - Private” (Just for You)
 - “Public” (For Anyone)
 - 4) Save / Commit

The screenshot shows a software window titled "Standard Report Criteria Selection (National Air Data Group) AMP480". The window has several tabs: "Criteria Set", "Data Selection", "Sort Order", "Report Options", and "Retrieve Reports". The "Criteria Set" tab is active. It contains the following fields:

- Criteria Set:** A dropdown menu with "TRAINING TEST" selected. A red number "1" is placed to the left of this field.
- Description:** A text box containing "Test for Training". A red number "2" is placed to the left of this field.
- Owner:** Two text boxes containing "CHRIS" and "CHAPMAN".
- Type:** A dropdown menu with "PRIVATE" selected. A red number "3" is placed to the left of this field.
- Report Code:** A dropdown menu with "AMP480" selected.
- Report Name:** A text box containing "DESIGN VALUE REPORT".

A red number "4" is placed above the "Criteria Set" dropdown menu.

Put it into practice - Exercise 6 (run a standard report (was Exercise 1.2))



PM2.5 - Local Conditions (88101)

Wisconsin

Micrograms/cubic meter (LC) (105)

24-HOUR										1ST	2ND	3RD	4TH	98TH	WTD		
SITE ID	P O C	PQAO	CITY	COUNTY	ADDRESS	YEAR	METH	#OBS	MAX	MAX	MAX	MAX	PERCENTILE VALUE	ARITH MEAN	CERT	EDT	
55-003-0010	1	1175	Not in a city	Ashland	BAD RIVER TRIBAL SCHOOL - ODANAH	2010	117	60	17.9	17.3	15.6	14.0	17.3	5.28		0	
55-003-0010	2	1175	Not in a city	Ashland	BAD RIVER TRIBAL SCHOOL - ODANAH	2010	117	60	18.1	17.5	15.6	13.7	17.5	5.34		0	
55-009-0005	1	1175	Green Bay	Brown	EAST HIGH, 1415 E. WALNUT	2010	118	336	45.5	42.3	40.5	38.9	35.1	9.97		0	

Note: The * indicates that the mean does not satisfy summary criteria.

98th percentile completeness for PM2.5 24-hour (2006) standard. Summary criteria met when all 4 site-level quarterly summaries are present, and one of the following is true: quarters are 75% complete, or Annual 98th percentile value greater than the 24-hour standard (35 ug/m3). "Wtd Arith Mean" for PM2.5 24-annual (2006) standard is based on quarterly means. Summary criteria are met when the percent of observations (quarterly) are >= 75%. (See AQS Data Dictionary section 4.281 and 40 CFR Part 50.13.).

National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Particulate Matter (PM _{2.5})	15.0 µg/m ³	Annual ⁽⁶⁾ (Arithmetic Average)	Same as Primary	
	35 µg/m ³	24-hour ⁽⁷⁾	Same as Primary	

⁽⁶⁾ To attain this standard, the 3-year average of the weighted annual mean PM2.5 concentrations from single or multiple community-oriented monitors must not exceed 15.0 µg/m³.

⁽⁷⁾ To attain this standard, the 3-year average of the 98th percentile of 24-hour concentrations at each population-oriented monitor within an area must not exceed 35 µg/m³ (effective December 17, 2006).



Quicklook

QUICK LOOK REPORT (AMP450)

Aug. 29, 2011

Nitrogen dioxide (NO2) (42602)

Wisconsin

Parts per billion (008)

SITE ID	P O C	PQAO	CITY	COUNTY	ADDRESS	YEAR	METH	COMP QTRS	1ST	2ND	98TH PCTL	OBS	PCT	ARITH	CERT	EDT
									1-HR	1-HR			COMP	MEAN		
55-041-0007	1	1175	Crandon	Forest	FIRE TOWER RD, POTAWATOMI SITE	2010	082	2	15.0	9.0	9.0	4364	50	1.20*	0	
55-071-0007	1	1175	Two Rivers	Manitowoc	MANITOWOC/WOODL ND DUNES, 2315 GOODWIN RD	2010	075	0	11.0	10.0	10.0	2016	23	2.56*	0	
55-079-0026	1	1175	Milwaukee	Milwaukee	DNR SER HDQRTS, 2300 N M. L. KING JR DR	2010	074	4	112.0	92.0	53.0	8608	98	12.90	0	

Note: The * indicates that the mean does not satisfy summary criteria.

“Comp qtrs” are complete quarters. The number of quarterly summaries, with corresponding pollutant standard and exceptional data type, where the summary criterion is met. For NO2, to have a complete quarter, the number of valid days in a quarter compared to number of total days in a quarter must be >= 75%.

“Arith Mean” is arithmetic mean. For NO2, this is the average of the hourly values for the year. This is defined on pages 4-20 and 4-21 of the AQS Data Dictionary.

The "Summary Criteria" column indicates whether or not the annual summary is complete as required by 40 CFR Part 50. i.e. If the mean is valid by these rules, it is set to 'Y', and if it is not, it is set to 'N'. For the NO2 annual standard, 75% of the hours for the year must have values. (See AQS Data Dictionary section 4.278 and 40 CFR Part 50.11.)

National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Nitrogen Dioxide	53 ppb (3)	Annual (Arithmetic Average)	Same as Primary	
	100 ppb	1-hour (4)	None	

(4) To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 100 ppb (effective January 22, 2010).



Quicklook

Ozone (44201)

Wisconsin

Parts per million (007)

1-HOUR

SITE ID	P O C	PQAO	CITY	COUNTY	ADDRESS	YEAR	METH	MEAS	NUM DAYS REQ	1ST	2ND	3RD	4TH	DAY	EST	MISS	CERT
										MAX 1-HR	MAX 1-HR	MAX 1-HR	MAX 1-HR	MAX> STD	DAYS> STD	DAYS< STD	
55-117-0006		1 1175	Not in a city	Sheboygan	E12886 TOWER RD KOHLER ANDRE PARK, 1520 OLD PARK ROAD	2010	087	182	184	.100	.099	.096	.093	0	0.0	0	0
55-123-0008		1 1175	Not in a city	Vernon	WILDCAT MTN, HWY 33, ONTARIO	2010	087	182	184	.079	.072	.068	.067	0	0.0	0	0
55-125-0001		1 1175	Boulder Junction	Vilas	TROUT LAKE NURSERY, COUNTY HWY M	2010	087	183	184	.074	.068	.068	.066	0	0.0	1	0
55-127-0005		1 1175	Lake Geneva	Walworth	LAKE GENEVA NADP SITE, RR4 ELGIN CLUB RD	2010	087	183	184	.087	.074	.074	.072	0	0.0	1	0
55-131-0009		1 1175	Slinger	Washington	SLINGER, HWY 60 & SCENIC, POLK TWNSHP	2010	087	184	184	.083	.075	.070	.068	0	0.0	0	0
55-133-0027		1 1175	Waukesha	Waukesha	1310 CLEVELAND AVE	2010	087	184	184	.082	.079	.073	.071	0	0.0	0	0

National Ambient Air Quality Standards

Pollutant	Primary Standards		Secondary Standards	
	Level	Averaging Time	Level	Averaging Time
Ozone	0.075 ppm (2008 std)	8-hour (8)	Same as Primary	
	0.08 ppm (1997 std)	8-hour (9)	Same as Primary	
	0.12 ppm	1-hour (10)	Same as Primary	

(8) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.075 ppm. (effective May 27, 2008)

(9) (a) To attain this standard, the 3-year average of the fourth-highest daily maximum 8-hour average ozone concentrations measured at each monitor within an area over each year must not exceed 0.08 ppm.

(b) The 1997 standard—and the implementation rules for that standard—will remain in place for implementation purposes as EPA undertakes rulemaking to address the transition from the 1997 ozone standard to the 2008 ozone standard.

(c) EPA is in the process of reconsidering these standards (set in March 2008).

(10) (a) EPA revoked the [1-hour ozone standard](#) in all areas, although some areas have continuing obligations under that standard ("anti-backsliding").

(b) The standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above 0.12 ppm is ≤ 1 .



Maximum Values

MAXIMUM VALUES REPORT

PM10 Total 0-10um STP (81102)

State: Kansas
 Duration: 24-HR BLK AVG
 Year: 2009

Primary: 150
 Secondary: 150

Unit: Micrograms/cubic meter
 (25 C)

Site ID	POC	County Name	City Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th Max	Num	Num	EDT	
					6th Max	7th Max	8th Max	9th Max	10th Max	Obs	Exc	ID	
20-173-0009	1	Sedgwick	Wichita	079	55	44	42	40	40	363	0	1	
					03/06:00	10/01:00	07/11:00	02/06:00	04/09:00				
					40	39	39	39	38				
					04/22:00	06/06:00	06/26:00	06/27:00	01/12:00				
					Maximum Values								
20-173-0009	1	Sedgwick	Wichita	079	66	55	44	42	40	365	0	2	
					04/08:00	03/06:00	10/01:00	07/11:00	02/06:00				
					40	40	39	39	39				
					04/09:00	04/22:00	06/06:00	06/26:00	06/27:00				
					Maximum Values								
20-173-0009	1	Sedgwick	Wichita	079	66	55	44	42	40	365	0	5	
					04/08:00	03/06:00	10/01:00	07/11:00	02/06:00				
					40	40	39	39	39				
					04/09:00	04/22:00	06/06:00	06/26:00	06/27:00				

Multiple lines are due to multiple event types. Check your report criteria.



Design Values

- available for PM10, PM2.5, SO2, NO2, ozone

PRELIMINARY DESIGN VALUE REPORT

Pollutant: Ozone(44201)

Standard Units: Parts per million(007)

NAAQS Standard: Ozone 8-Hour 2008

Statistic: Annual 4th Maximum **Level:** .075

Design Value Year: 2010

REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.

State: North Carolina

Site ID	Poc STREET ADDRESS	2010				2009				2008				3 - Year		
		Valid Days	Percent Complete	4th Max	Cert	Valid Days	Percent Complete	4th Max	Cert	Valid Days	Percent Complete	4th Max	Cert	Percent Complete	Design Value	D. V. Validity
37-183-0014 1	3801 SPRING FOREST RD.	212	99	.071		201	94	.068		211	99	.078	Y	97	.072	Y
37-183-0016 1	201 NORTH BROAD STREET	209	98	.073		201	94	.069		208	97	.078	Y	96	.073	Y

Pollutant: Ozone(44201)

Standard Units: Parts per million(007)

NAAQS Standard: Ozone 8-Hour 2008

Statistic: Annual 4th Maximum **Level:** .075

Design Value Year: 2009

REPORT EXCLUDES MEASUREMENTS WITH REGIONALLY CONCURRED EVENT FLAGS.

State: North Carolina

Site ID	Poc STREET ADDRESS	2009				2008				2007				3 - Year		
		Valid Days	Percent Complete	4th Max	Cert	Valid Days	Percent Complete	4th Max	Cert	Valid Days	Percent Complete	4th Max	Cert	Percent Complete	Design Value	D. V. Validity
37-183-0014 1	3801 SPRING FOREST RD.	201	94	.068		211	99	.078	Y	204	95	.084	Y	96	.076	Y
37-183-0016 1	201 NORTH BROAD STREET	201	94	.069		208	97	.078	Y	214	100	.080	Y	97	.075	Y

Each design value is for a 3-year period.



Help



Where to Find AQS Help

- On-Line Help from the Application
- AQS Documentation
- On the Phone
- Internet Training
- AQS Regional Contacts
- Other Users



From the Application

- “Help” From the Menu
 - Topics
 - Short-Cut Keys
 - Display Error
- Field-Level Help

Help

Help

Keys

Ctrl+F1

Display Error

Shift+F1

About

Horizontal Method	012	GPS CARRIER PHASE STATIC RELATIVE POSITION
Horizontal Accuracy (Meters)	3.04	Source Map Scale (Non-GPS) 24000
Vertical Measure (Meters)	Description of the accuracy as a range of the latitude/longitude reported in meters. Only the least accurate measurement needs to be recorded whether is latitude or longitude.	
Vertical Method	000	UNKNOWN
Street Address	HEALTH DEPT, 300 E MAIN STREET	

Enter a valid Dominant Source code that identifies the primary source of the pollutant being monitored.

Record: 1/?

... List of Valu...

<OSC>



Help within AQS

Index Search

Type in the keyword to find:

A

- Accuracy Report
- Ad Hoc Reports
- Add A New Role
- Add A New User
- Admin Message of the Day
- Air Quality Index Report
- Air Quality Index Summary Report (AMP410S)
- Air Quality Index Workfile format
- Air Quality Report
- All Parameters Format
- All Parameters Quick Look Work File Format
- All Roles
- Annual Summary
- Application Administrator
- Application Audits
- AQI

B

- Batch
- Batch load formats
- Browse

C

- CA Dump
- California Dump Bucket
- Carbon Monoxide Format
- Carbon Monoxide Work File Format
- CDX
- CDX application
- Certification
- Comment form
- Comment tab

Data Completeness Workfile

When user requests a work file, two separate files will be produced:

- Summary level information on a per EPA Region, State, Reporting Organization, Parameter, and Monitor Type basis.
- Monitor level information, which contains month-by-month counts and percentages of samples collected by the monitor.

Field	Summary Workfile Format
1	EPA REGION
2	STATE
3	REPORTING ORGANIZATION NAME
4	MONITOR TYPE
5	PARAMETER NAME
6	NUMBER MONITORS EVALUATED
7	AVERAGE COMPLETENESS
8	NUMBER NOT REPORTING

Field	Monitor Workfile Format
1	MONITOR TYPE
2	SITE_ID (ST-CNT-SITE)
3	PARAMETER CODE
4	POC
5	REGION

Local intranet

User Support



EPA Helpdesk

- 1-866-411-4372
- epacallcenter@epa.gov
- 2 “Levels” of Support
 - Level 1: Reset Passwords
 - Level 2: AQS Specific Issues

CDX Helpline

- 1-888-890-1995
- nodehelpdesk@epacdx.net



AQS Documentation

- Manuals and Guides:

<https://www.epa.gov/aqs/aqs-manuals-and-guides>

- AQS Data Coding Manual
- AQS Input Transaction Formats

- AQS Fundamentals and AQS User Guide:

<https://www.epa.gov/aqs/aqs-users-guide-0>

- AQS Data Dictionary:

<https://www.epa.gov/aqs/aqs-data-dictionary>

- Memos:

<https://www.epa.gov/aqs/aqs-data-dictionary>

(under AQS Information)



Teleconference Training From NADG

- **New User Orientation – Pamela McIntyre/ Donnie Brown**
 - Monthly on the 3rd Wednesday
 - Walk-Through Basic Functions
- **Tribal Q&A – Pamela McIntyre/ Donnie Brown**
 - Bi-Monthly on the 2nd Wednesday



Additional Training Resource

- All AQS Training is archived at:

<https://www.epa.gov/aqs/aqs-training>



THE END



AQS Regional Contacts

- Mary Jane Cuzzupe
 - (617) 918-8383
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 - (404) 562-9052
- Jesse McGrath (V)
 - (312) 886-1532
- Trisha Curran(VI)
 - (214) 665-8245
- James Regehr (VII)
 - (913) 551-7167
- Joe Delwiche (VIII)
 - (303) 312-6448
- Fletcher Clover (IX)
 - (415) 972-3991
- Jan Noel (X)
 - (206) 553-1691

