

AQS Basics

Retrieving data

AQS Concepts

The AQS user interface (how to navigate)

Help

Your User ID

Screening Groups

Browsing Data

Standard Reports



AQS Concepts

Background information on AQS



In This Section We Will Talk About

- AQS Background
- History
- AQS as part of a monitoring program
- Types of Information in AQS
- AQS and Exchange Network (ENSC)
- Database basics
- AQS Data Model
- Tying AQS codes to real-world examples



What is AQS?

- EPA's Database Application used to House and Store Ambient Air Quality Data
- Centralizes the Location of Data
 - Used to Determine if areas are meeting the National Ambient Air Quality Standards (NAAQS)
 - Used by Universities and Institutes to Perform Health Studies



Brief History of AQS

- **SAROAD** (1970 – 1985)
 - Storage And Retrieval Of Air Data
 - Created in Response to the 1970 Clean Air Act
- **AIRS – AQS** (1985 – 2000)
 - Aeroemetric Information Retrieval System
 - Stored Ambient Air Quality Data (Air Quality Subsystem) as well as Point Source Emission Data
 - Combined the Data from Ambient, Point Source, and Quality Assurance Data Systems
- **AQS** (2000 – Present)
 - Air Quality System
 - Contains Ambient Air Quality Data and Quality Assurance Information



How Does AQS Fit in the Big Picture?

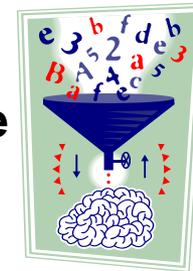


**Monitor
the Air**

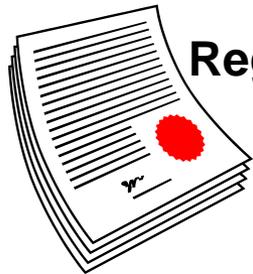


Acquire Data

**Handle
Data**

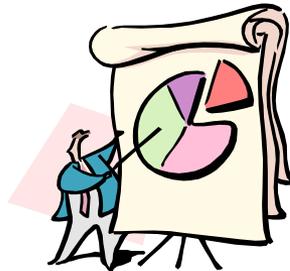


**Report (Load)
Data**

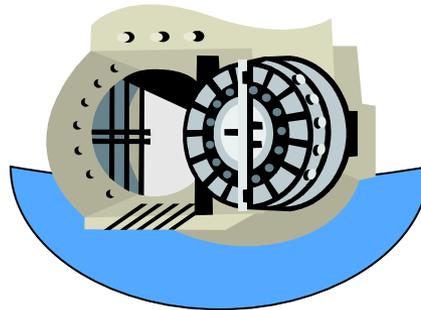


Regulate

Analyze



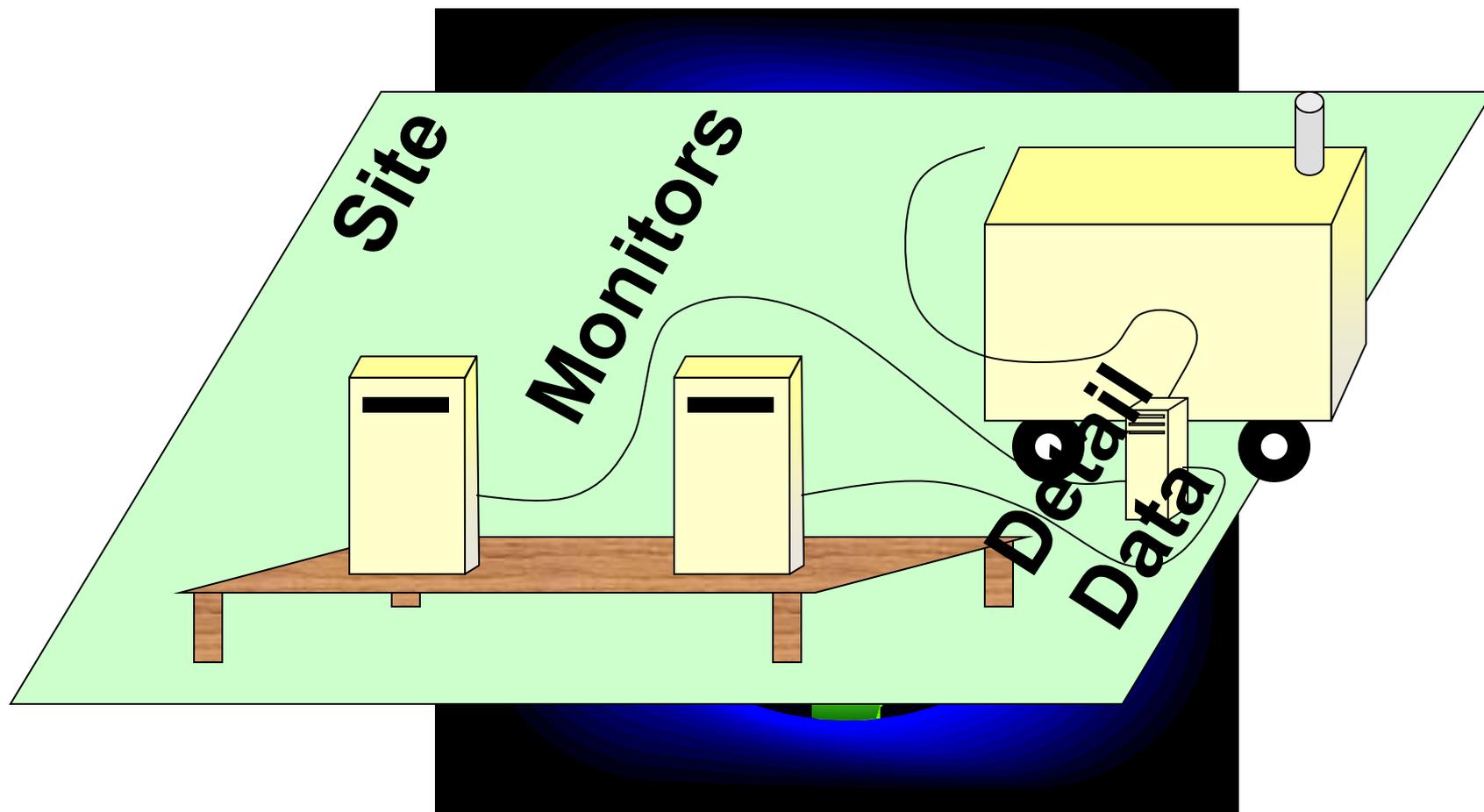
Store



AQS



Types of Core Data in AQS



Site Information

- Physical location – Where is the site?
 - Latitude and longitude
 - Street address
- Characteristics of the site
 - Nearby Streets
 - Open Path Set Up
 - Primary monitor (PM_{2.5}, SO₂, Lead or NO₂)
- Identified by
 - State Code - County Code - Site ID OR
 - Tribal Code - Site ID



Monitor Information

- How is a Given Pollutant Measured?
 - When Sampling Began
 - Which Network(s) are associated with the Monitor
 - What Agencies run the Monitor
 - What Are the Monitoring Objectives
 - What Obstructions are Nearby
 - What Nearby Roads May Affect the Monitor
 - If the Monitor is Collocated, is this monitor the Primary or Collocated Monitor?
If Collocated, which is the Primary?
 - How Frequently Does the Monitor Try to Get a Sample?
- Identified by
 - AQS Site ID + Pollutant Code + Parameter Occurrence Code (POC)
(Think of it a POC a Sequence Number)



Detail Data

- Sample Measurement Obtained by the Instrument
 - User Reports:
 - Individual Sample Data (Raw Data)
 - Any Notes & Flags Pertaining to the Sample Data
 - Audit Data (Precision and Bias Data)
 - AQS Computes
 - 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)
- Identified by
 - Individual Sample Data
 - Monitor ID + When the Sample Was Taken (Date & Time) + Status
 - Audit Data
 - Monitor ID + When the Sample Was Taken (Date & Time)
 - Summary Data
 - Monitor ID + Time Period Summarized + Sample Duration + Exceptional Data Type + Pollutant Standard



Reference Data

- “Extra” Information about the Data in AQS
 - Sets of Codes Available for these Descriptions
 - Standard Codes Used where Available
- Codes are Used to Identify
 - States, Counties, Tribal Lands,
 - Pollutants,
 - Sample Lengths,
 - etc...



Examples of Commonly Used Codes

- Parameter Codes

- $O_3 = 44201$
- $NO_2 = 42602$
- SO_2 hourly = 42401
- $CO = 42101$
- $PM_{2.5} = 88101$
- PM_{10} STP = 81102
- Lead (TSP) at LC FRM/FEM = 14129
- Lead (PM_{10}) at LC FRM/FEM = 85129

- Units of Measure

- 001 = $\mu g/m^3$
- 007 = ppm (parts per million)
- 008 = ppb (parts per billion)

- Collection Frequency Codes

- 1 = Every Day
- 3 = Every 3rd Day
- 6 = Every 6th Day

- Duration Codes

- 7 = 24 Hours
- 1 = 1 Hour
- W = 8-Hour Running Avg.*
- X = 24-Hour Block Avg.*
- Y = 3-Hour Block Avg.*

* AQS Generated Durations

LC = local conditions

STP = standard temperature and pressure

FRM = Federal Reference Method

FEM = Federal Equivalent Method

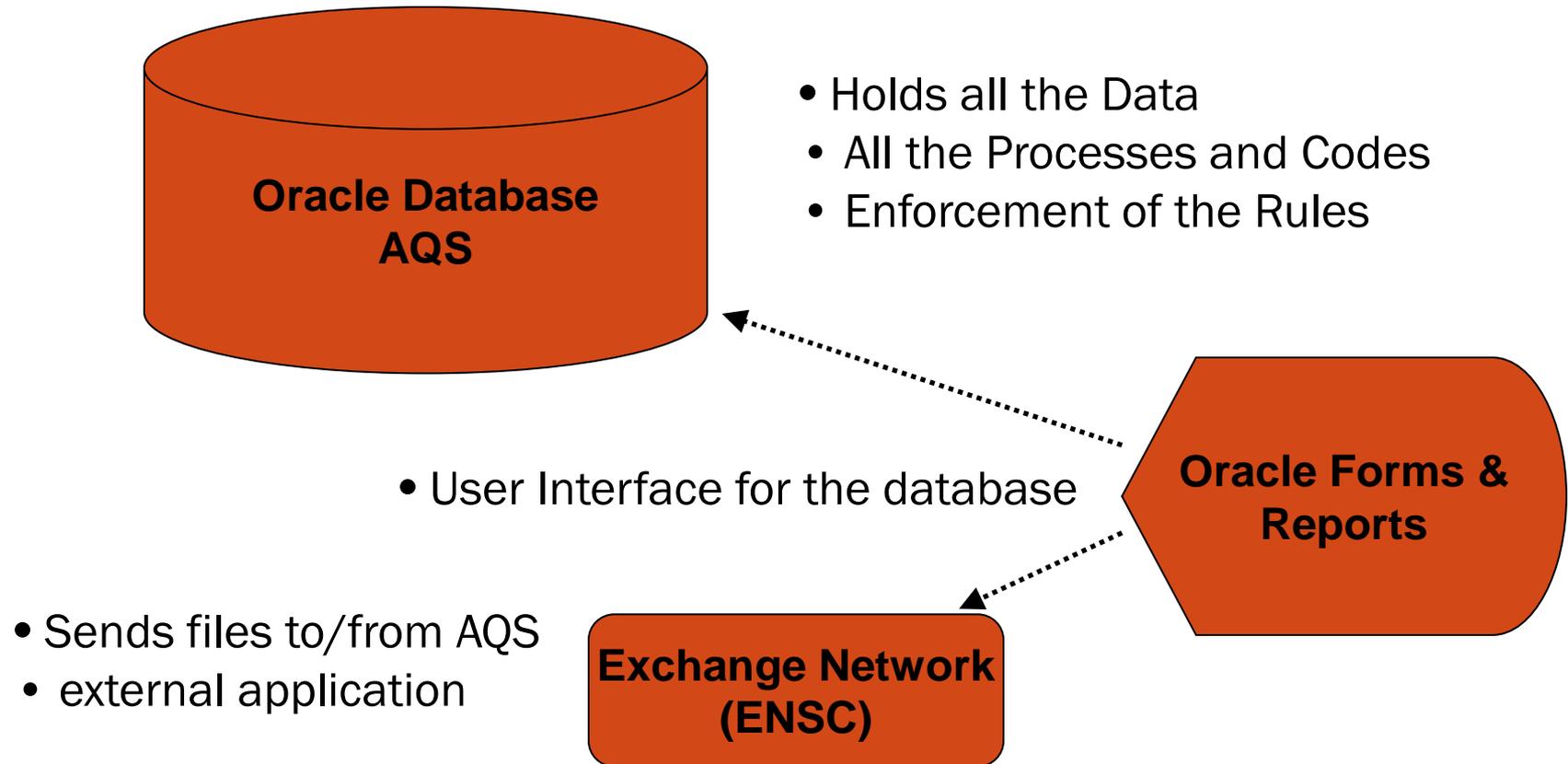


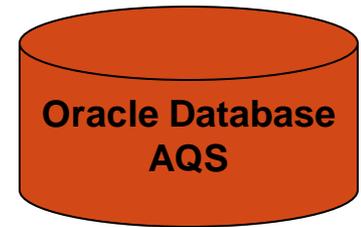
Core + Reference Information

- An Ozone (44201) Monitor in Wake County(183), North Carolina (37) is represented as 37-183-0001-44201-1
- A PM10 (81102) Monitor for the St. Regis Band of Mohawk Indians of New York (007) is represented as TT-007-1234-81102-1



Components of AQS



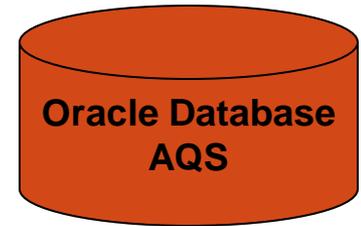


What is a Database?

- A collection of information about a particular subject stored so that the information can be accessed and organized
- The AQS Database stores information about ambient air quality measurements



The AQS Database

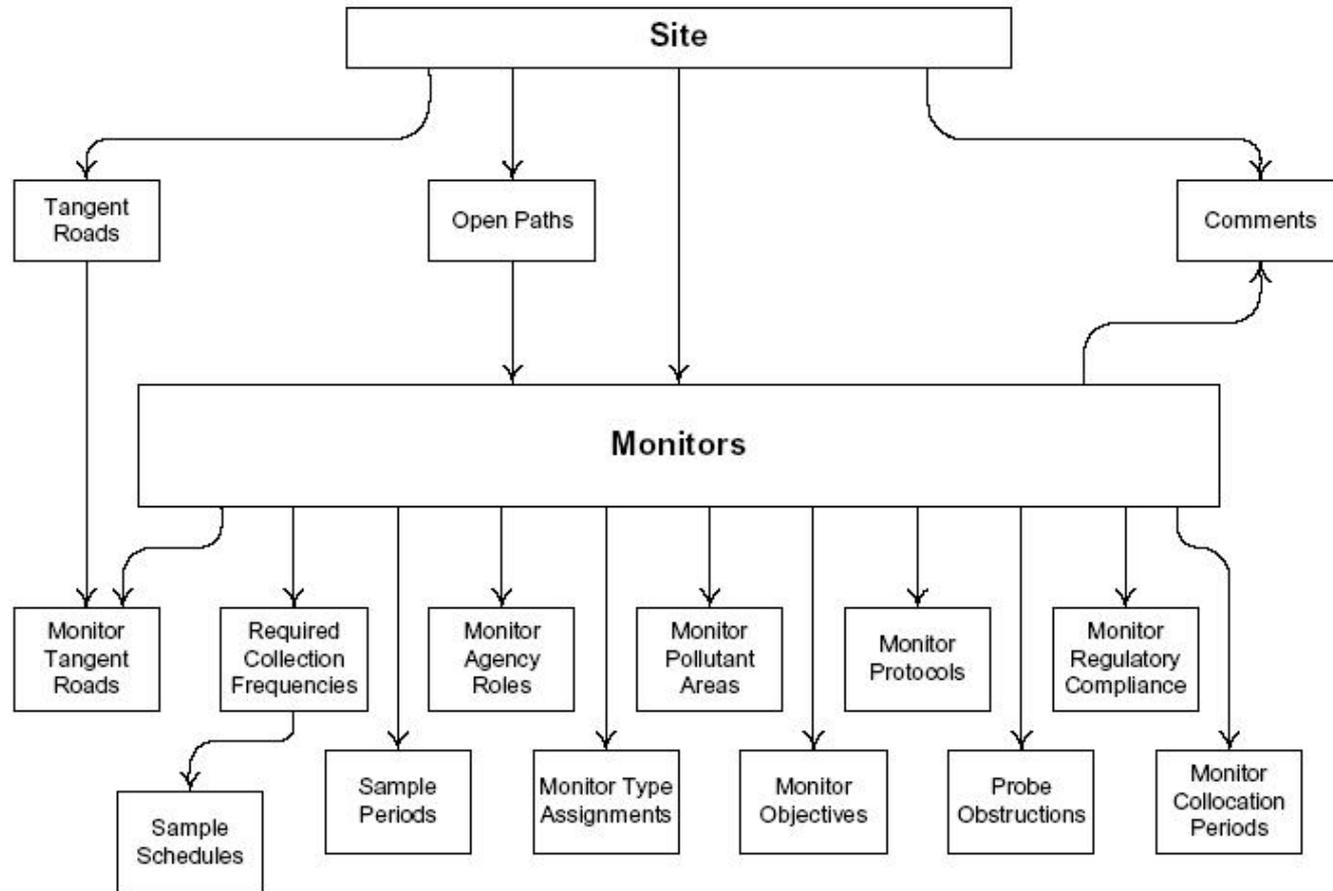
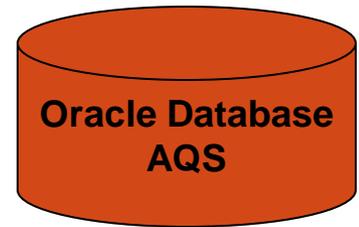


The AQS database can be considered to have four fundamental types of data:

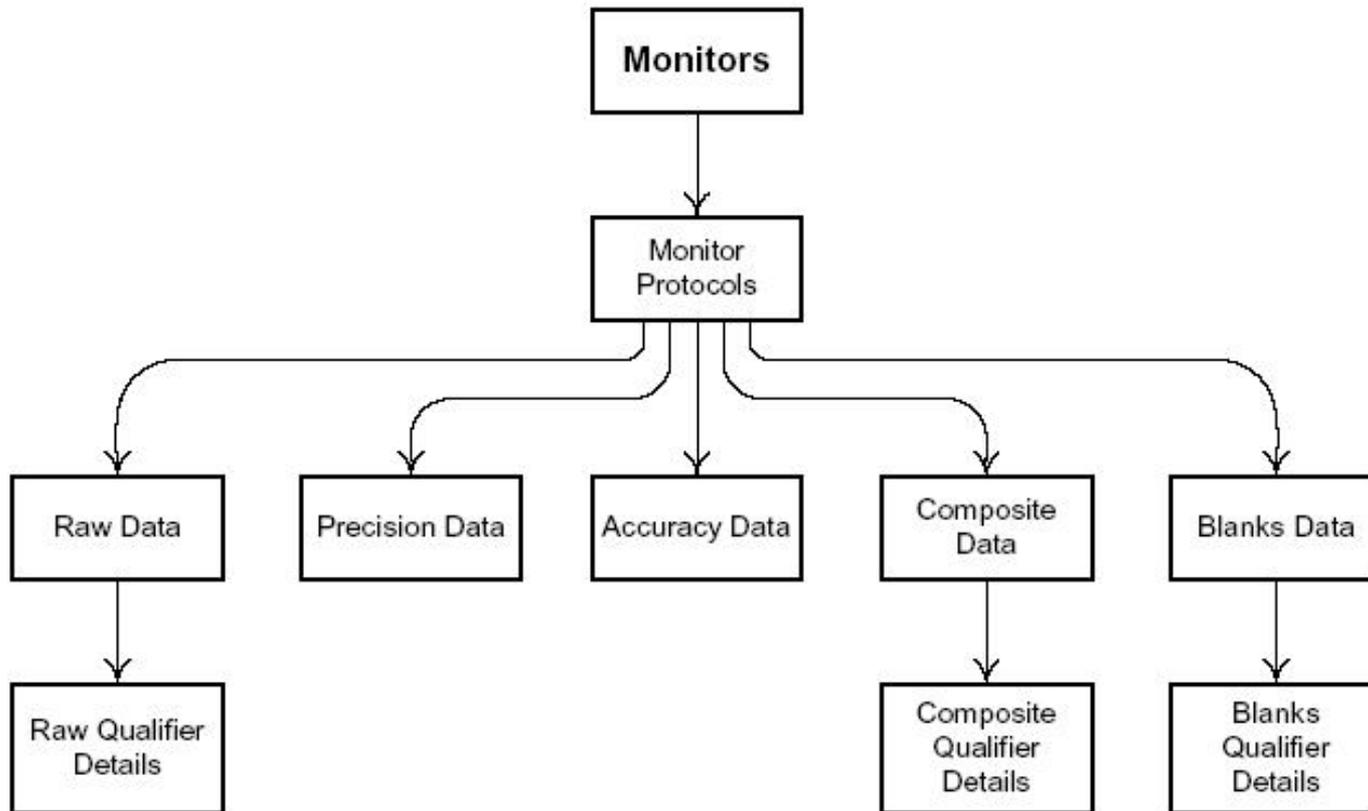
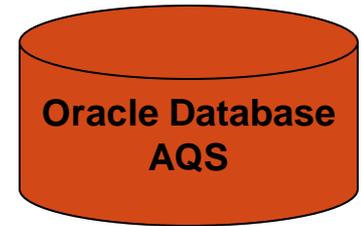
- **Sites:** Information about monitoring locations
- **Monitors:** Information about how measurements are taken
- **Detail Data:** Measurements, Summaries, and QA information
- **Reference Data:** Information about the real-world (e.g., States, Tribes, Pollutants (parameters))



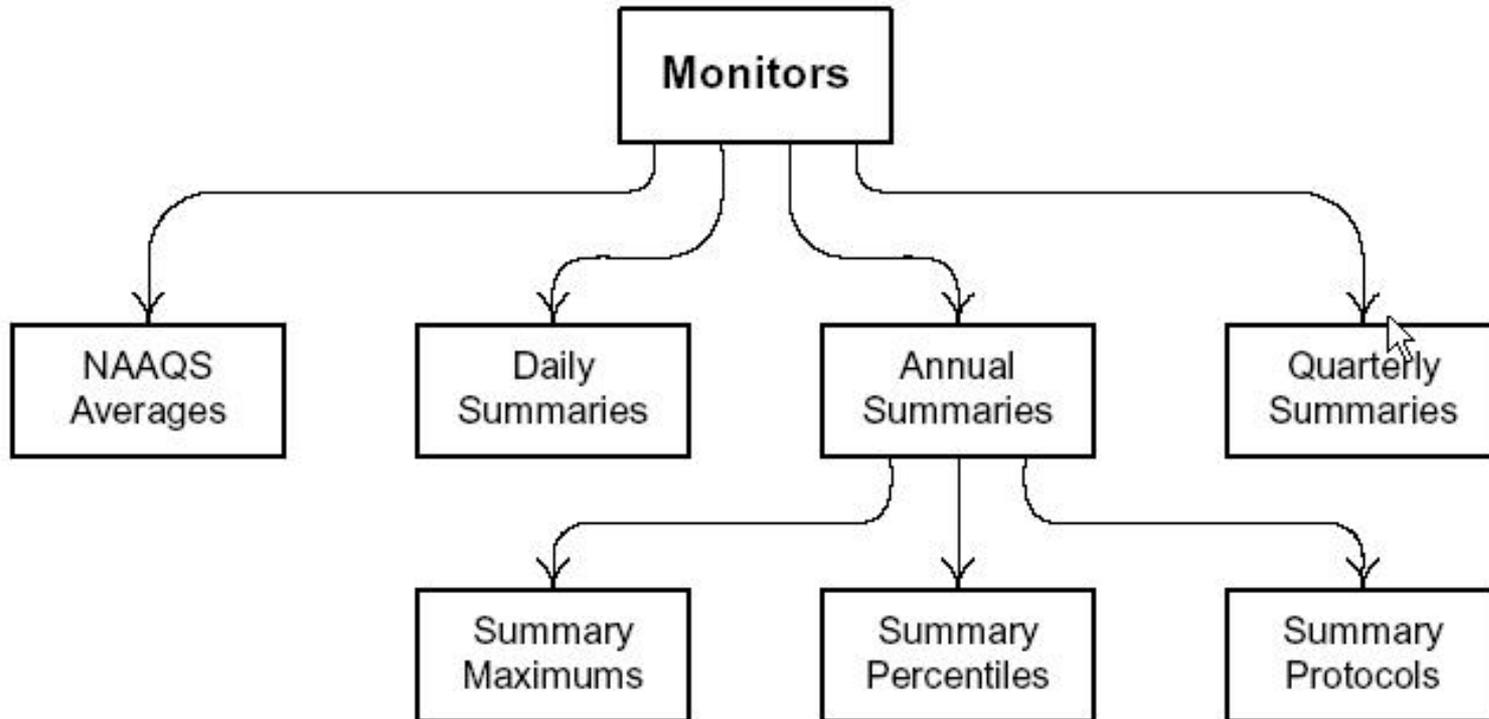
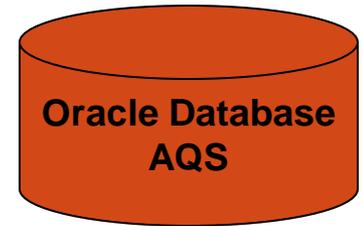
AQS Site and Monitor Data Model



AQS Data Model – Sample Data



AQS Data Model – Summary Data



Exercise 1.1

1. Name the 4 Categories of Data in AQS.

1. _____

2. _____

3. _____

4. _____

2. What is meant by a “site”? How do you uniquely define a “site” in AQS?

3. What is meant by a “monitor”? How do you uniquely define a “monitor” in AQS?

4. What would a Summary Record with a Duration Code of “W” and a Parameter Code of “44201” represent?



The AQS User Interface

Oracle Forms and Reports

How to get around in AQS



User Interface Parts

(aka “Oracle Forms and Reports”)

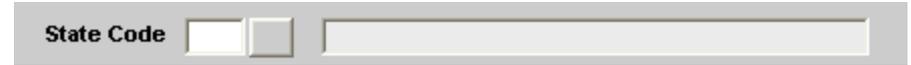
- Forms
 - Present information and accept input.
- Menus
 - Select a form or execute an action
- Icons
 - Execute an action
- Reports
 - Present formatted data for printing (reports) or
 - input by other software (workfiles)



Forms

- You will use forms to interact with the AQS database.

- You can enter data on them:



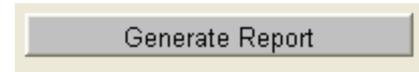
A screenshot of a web form with a label 'State Code' followed by an empty text input field.

- You can see previously entered data:



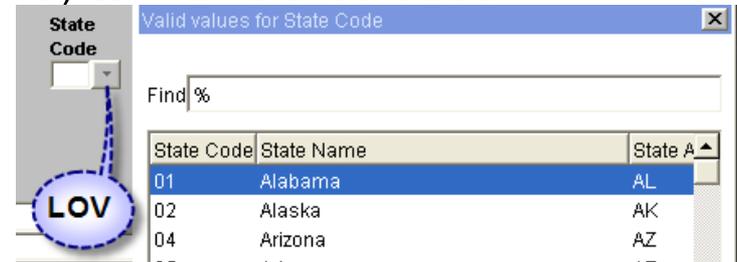
A screenshot of a web form with a label 'State Code' followed by a text input field containing the value '37' and a dropdown menu showing 'North Carolina'.

- You can use them to request actions:



A screenshot of a button labeled 'Generate Report'.

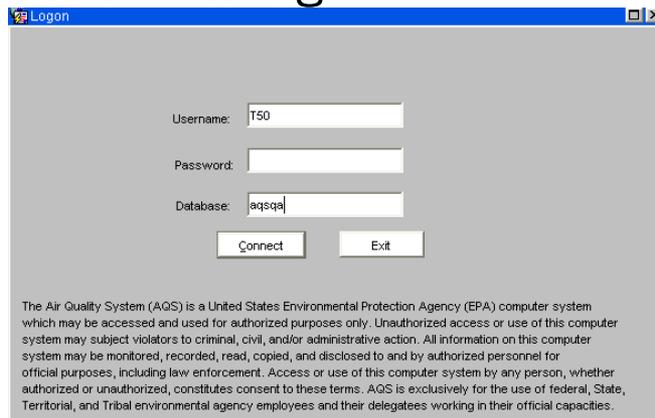
- You can often use a List of Values (LOVs) to make a selection:



A screenshot of a dialog box titled 'Valid values for State Code'. It contains a search field with 'Find: %' and a table of state codes and names. A blue circle with 'LOV' is overlaid on the dialog box.

State Code	State Name	State A
01	Alabama	AL
02	Alaska	AK
04	Arizona	AZ
05

- You will use a form to login:



A screenshot of a 'Logon' form with three input fields: 'Username' (containing 'T50'), 'Password', and 'Database' (containing 'lbrsbe'). Below the fields are 'Connect' and 'Exit' buttons. At the bottom, there is a disclaimer text.

The Air Quality System (AQS) is a United States Environmental Protection Agency (EPA) computer system which may be accessed and used for authorized purposes only. Unauthorized access or use of this computer system may subject violators to criminal, civil, and/or administrative action. All information on this computer system may be monitored, recorded, read, copied, and disclosed to and by authorized personnel for official purposes, including law enforcement. Access or use of this computer system by any person, whether authorized or unauthorized, constitutes consent to these terms. AQS is exclusively for the use of federal, State, Territorial, and Tribal environmental agency employees and their delegates working in their official capacities.

Form Types

- Forms that display one record at a time:

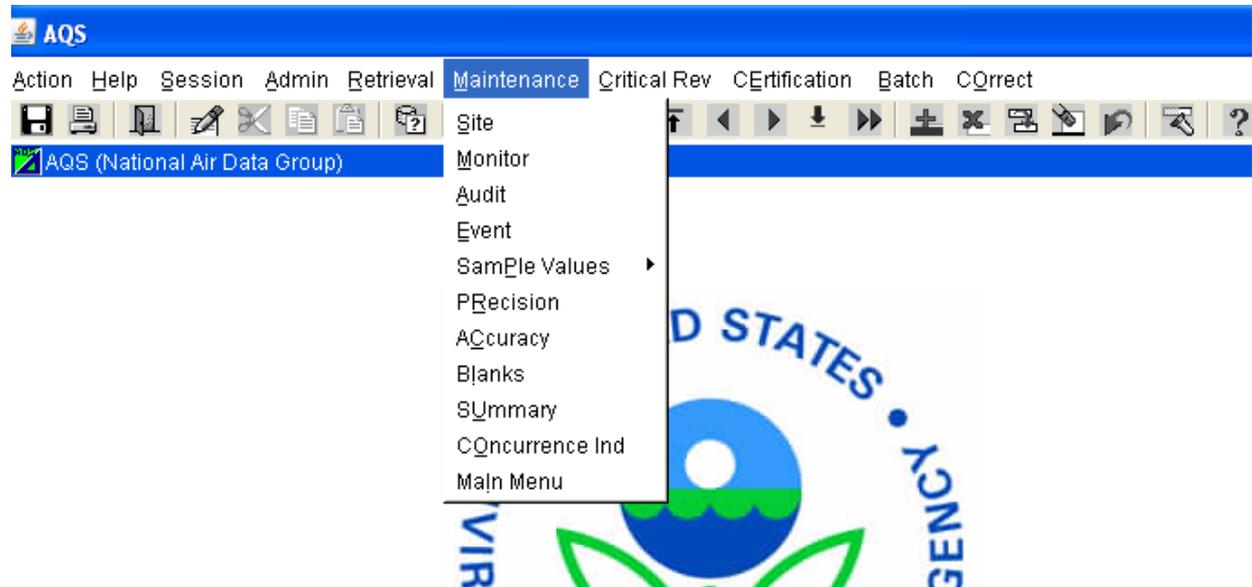
- Forms that display multiple records at a time:

State	County	Site	Parameter	POC	Begin Date	End Date	Standard Units	Raw Data Mp ID	Date	Time	Stat	Reported Sample Value	Standard Sample Value	EPA Ind	Action Ind	Exclusion Ind	Null Ind	Data Code	Description	Uncertainty Value
37	183	0020	88101	1	20100601	20100630	105	2	20100628 00:00		P	12.09	12							
								2	20100625 00:00		P	15.08	15							
								2	20100622 00:00		P	20.75	20.7							
								2	20100619 00:00		P	16.04	16							
								2	20100616 00:00		P	14.87	14.8							
								2	20100613 00:00		P	14.17	14.1							
								2	20100610 00:00		P	15.79	15.7							
								2	20100607 00:00		P	6.92	6.9							
								2	20100604 00:00		P	19.04	19							
								2	20100601 00:00		P	4.81	4.8							



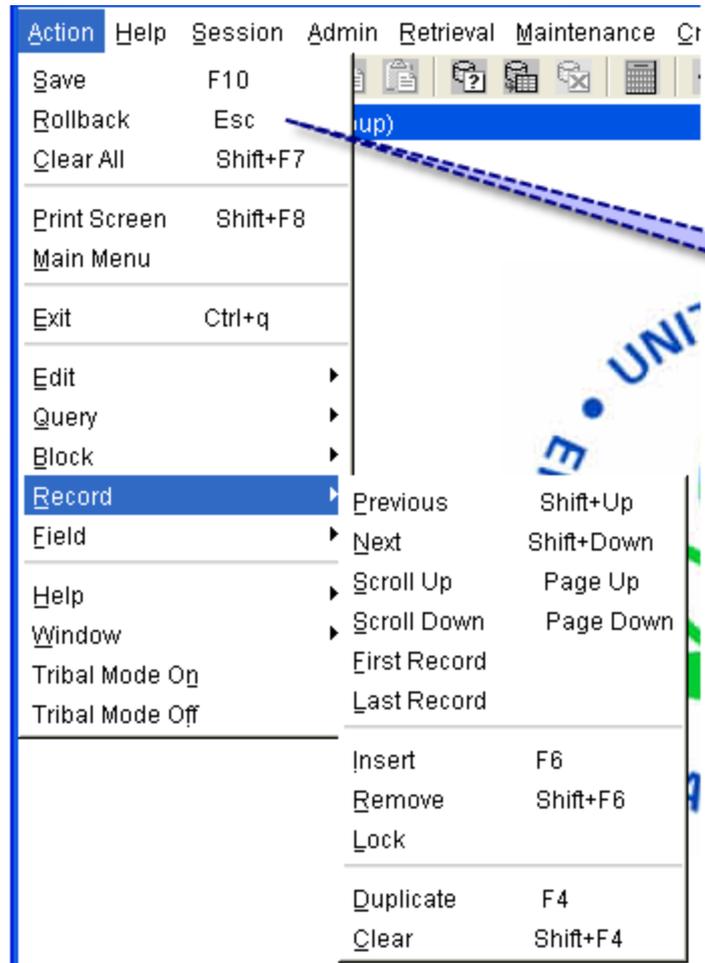
Menus

- The AQS Main Menu allows access to all forms that are part of AQS:



AQS Menu (Action):

- The Action Menu allows you to request specific operations:



**Notice
Shortcut
Keys**



AQS Icons

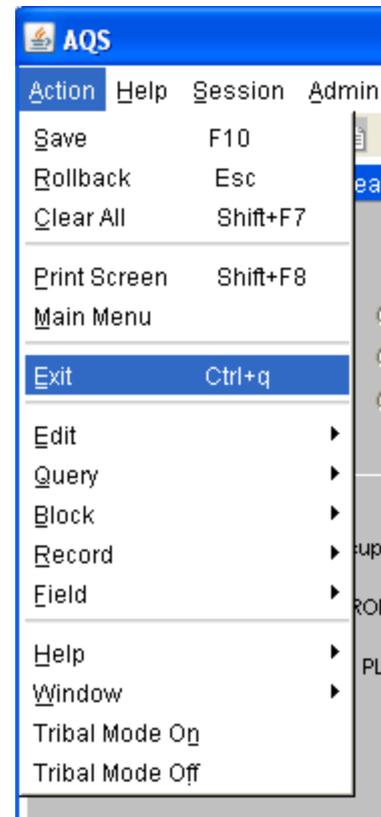
- Use the AQS icons to request actions from the Action Menu.



- Other icons will be covered a little later

And, three ways to log off

- Use the Exit Icon  from the Main Menu
- Use the red  at the top right corner
- Select Exit from the Action Menu



Help



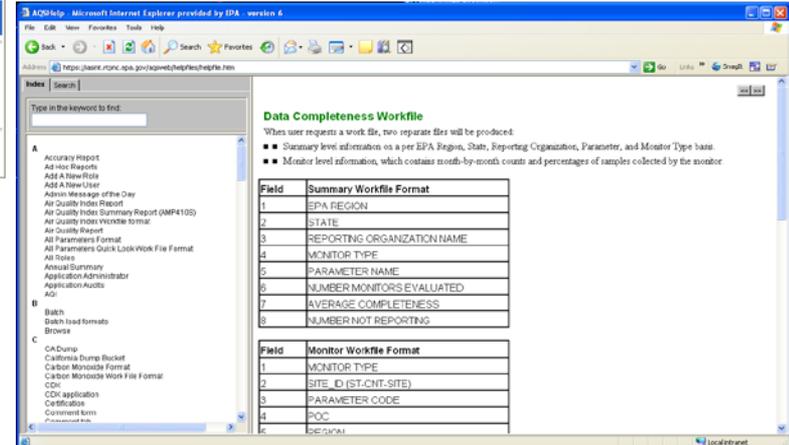
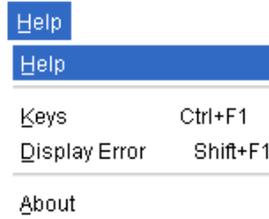
Where to Find AQS Help

- On-Line Help from the Application
- AQS Documentation
- On the Phone
- AQS Regional Contacts



From the Application

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



- Field-Level Help

Horizontal Method GPS CARRIER PHASE STATIC RELATIVE POSITION

Horizontal Accuracy (Meters) Source Map Scale (Non-GPS)

Vertical Measure (Meters)

Vertical Method UNKNOWN

Street Address

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

Record: 1/? ... List of Valu...



Helpdesk User Support



EPA Helpdesk

- 866-411-4372 or epacallcenter@epa.gov
- Levels of support
 - Level 1: password resets for AQSProd; opens a problem ticket
 - Level 2: AQS-specific issues → Pamela and Donnie
 - Level 3: server issues → NCC
 - Level 4: software and data issues → AQS Team
- Exchange Network (EN) Helpdesk
 - 888-890-1995 or nodehelpdesk@epa.cdx.net
 - Supports:
 - Node (production) password resets / general Node support

When in doubt, call the EPA Helpdesk

AQS Team

AQSTeam@epa.gov

- Robert Coats, team lead
- Bill Frietsche (QA & audits)
- Way Poteat
- Chris Chapman
- Nick Mangus (Data Mart)
- Michael Hamlin (user registration)
- Angie Shatas



AQS Regional Contacts

1: Wendy McDougall

(617) 918-8323

2: Henry Feingersh

(212) 637-3382

3: Pauline DeVose

(215) 814-2186

4: Darren Palmer

(404) 562-9052

5: Jesse McGrath

(312) 886-1532

6: Trisha Curran

(214) 665-8345

7: James Regehr

(913) 551-5063

8: Joe Delwiche

(303) 312-6448

9: Fletcher Clover

(415) 972-3991

10: Jan Noel

(206) 553-1691



AQS Documentation

- Manuals and Guides

<http://www.epa.gov/ttn/airs/airsaqs/manuals/>

- **Design Value Report (SO₂) ***
 - **Submit Automation User Guide ***
 - **Data Dictionary ***
 - Data Coding Manual
 - AQS Input Transaction Formats ***
 - Exceptional Event Tutorial
 - **Fundamentals & User Guide ****
 - **Data Retrieval Manual ****
 - Codes and Descriptions *
 - Memos and Software Release Notes *
- <http://www.epa.gov/ttn/airs/airsaqs/memos/>



* New/updated

** Near term updates/overhaul

*** Longer term overhaul

About Your AQS account



Your AQS account

- When you register for AQS:
 - The AQS Team assigns your AQS account
 - AQS user ID (3-character ID) is randomly generated
 - AQS Team assigns your screening group(s)
 - Call EPA Helpdesk for initial pw
 - Database for normal use = “AQSPROD”
 - The AQS Team requests an EN account for you
 - Only if you have indicated during registration that you will be submitting data
 - EN user ID will be the email address you supplied with your AQS registration
 - ENSC Helpdesk will contact you with initial pw
 - If your email address changes, ENSC Helpdesk.

For this class, use Training IDs:

Username: “TXX”

Password:

Database: “AQSQA”



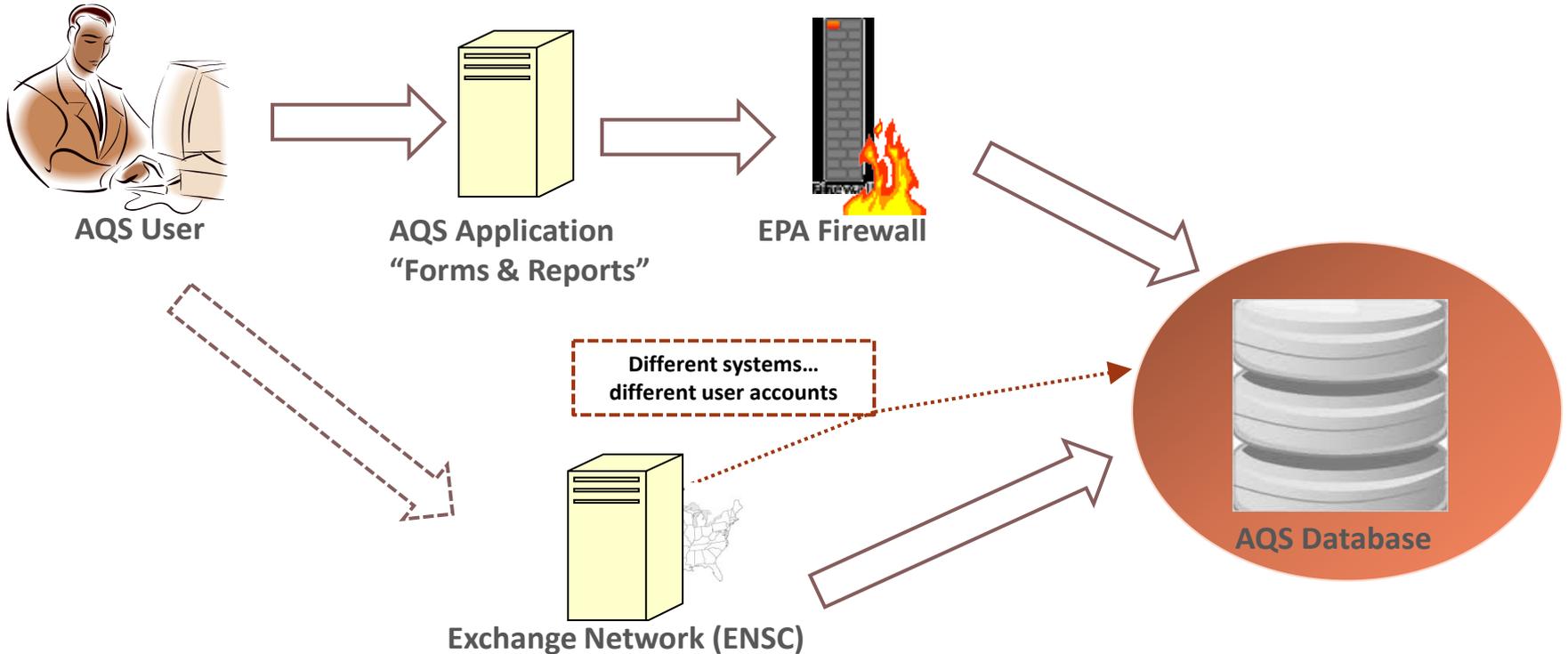
The screenshot shows a 'Login' window with the following fields and buttons:

- Username: TSO
- Password: [Redacted]
- Database: AQSPROD
- Buttons: Connect, Exit

The Air Quality System (AQS) is a United States Environmental Protection Agency (EPA) computer system, which may be accessed and used for authorized purposes only. Unauthorized access or use of this computer system may subject violators to criminal, civil, and/or administrative action. All information on this computer system may be monitored, recorded, read, copied, and disclosed to and by authorized personnel for official purposes, including law enforcement. Access or use of this computer system by any person, whether authorized or unauthorized, constitutes consent to these terms. AQS is exclusively for the use of federal, State, Territorial, and Tribal environmental agency employees and their delegates working in their official capacities.



AQS Architecture

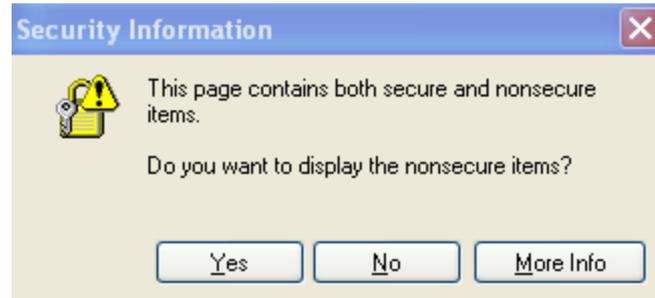


If you are submitting data to AQS, you can use the ENSC. You do not have to login to AQS to load the file.

The AQS Submit Automation project makes it possible for you use the ENSC to both transfer your file and select your final processing step in AQS. If there are no errors in your file, you are done, and you never have to login to AQS.

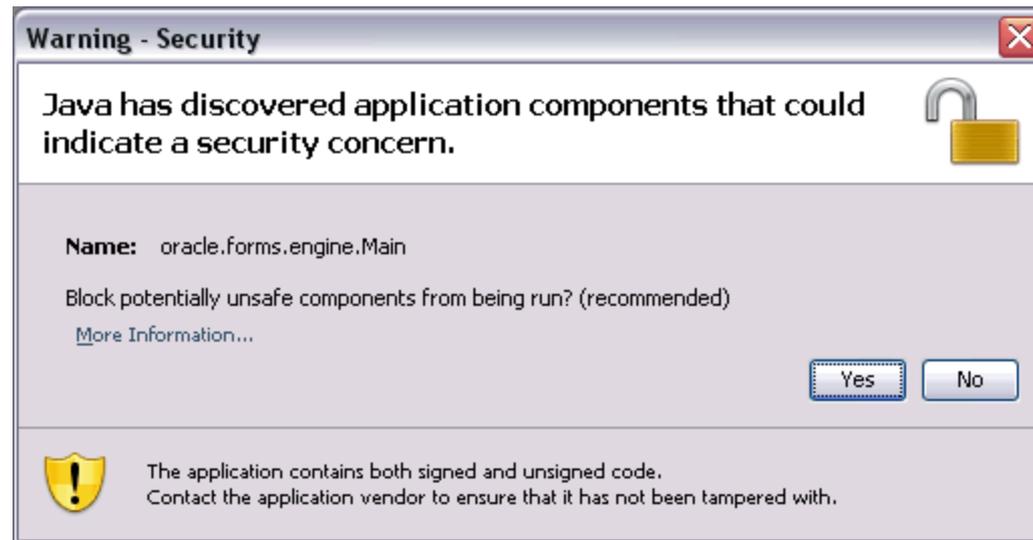
Logging on to AQS – security pop-up

- Pop-up warning:



- Latest Java versions also display this warning:

Choose "No" or the menu bars in AQS will be blocked



Account management

- Change password every 90 days (AQS)
 - You receive an automated reminder
 - You can change your passwords in AQS at any time
- After 180 days of inactivity, your AQS user account is locked
 - You receive an automated reminder
 - If your account is locked, you must call the EPA Helpdesk to have it unlocked
- After 365 days of inactivity, your AQS user account is removed
 - You receive an automated reminder
 - You must go through the user registration process



Accounts and Passwords

- AQS Account

- 3-digit User ID

- Password rules

- Must be between 8 -15 characters
 - Must contain at least 1 uppercase, 1 lowercase and 1 number
 - Must not BEGIN or END with a number
 - Must be changed every 90 days
 - At least three characters or character positions of the new password must differ from the old
 - “Novemb3r” could be changed to “Decemb3r”
 - “Fido1smydog” could be changed to “mydog1sFido”
 - NOT Allowed:
 - Special characters (eg, !@#\$%^&*)
 - Your first or last name
 - Any common word found in a dictionary
 - Your 3-digit AQS username (in forward or reverse order)
 - The letters “AQS”
 - The word “password”

- Forgot AQS password or have account problems?

Call the EPA Call Center at 866-411-4372

- ENSC Account

- EN user ID is not your AQS ID; it is the email address on your AQS Security Profile (you supplied it when you got your AQS account)
 - Password is not your AQS password (unless you manually synced them)
 - Forgot ENSC password or your email address changed?

Call the EN Helpdesk at 888-890-1996



Where to Change Your AQS Password

Admin

Security

Reference

User Statistics

Appl Audits

Export Ca Dump Bucket

Maintain Monitoring Season

Step 1: Select “Admin” → “Security” from the Main Menu

The screenshot shows the 'Administration - Application Security (National Air Data Group)' window. The 'Maintain Security' tab is active. A 'Security - Change Password' dialog box is open in the foreground, displaying the message '-20459: Password changed.' and an 'OK' button. In the background, the user profile form for 'CHRIS CHAPMAN' is visible, with fields for First Name, Phone, Zip Code, County Code, AQS User ID, and EN User ID.

Step 2: Fill in the “New Password” & “Confirm Password Fields

The screenshot shows the 'AQS' form with the 'New Password' and 'Confirm password' fields circled in red. The 'OK' button is also circled in red. The form is titled 'AQS' and has a label 'New Password:' followed by a text input field, and 'Confirm password:' followed by another text input field.

Step 3: Click “OK”

About Your User Profile

Administration - Application Security (National Air Data Group)

User Profile | Maintain Security | Security Reference Tables | Maintain Roles | User History

First Name CHRIS Initial C. **Last** CHAPMAN
Phone 919.541.2073 Street Address 1 109 TW Alexander Drive Street Address 2 [blank]
Zip Code 27711 City Research Triangle Park State Code 37
County Code 063 **User Type** H **Agency Code** 1108
AQS User ID CIX **Status Ind** P **AQS Contact** N
EN User ID CHAPMAN.CHRIS@ EPA Region Code [blank] Tribal User [blank]
E Mail chapman.chris@epa.gov **Delete Error Transaction** N
Fax 919.541.7674

Change Your Oracle Passwords

AQS New Password: [] Confirm password: [] OK

- Cannot change

- Agency Code
- User ID
- User Type
- AQS Contact
- Status Indicator

- Tribal user setting

- Determines how you see AQS Site IDs

- Keep email address current

- Make sure your EN_User_ID has your email address

- Are you a Node user?

- EN_User_ID = user ID that is used by the Node to submit files.

Tribal User "ON"

TT-549-0001

Tribal User "OFF"

36-001-0001

Put it into practice: Exercise 1.2

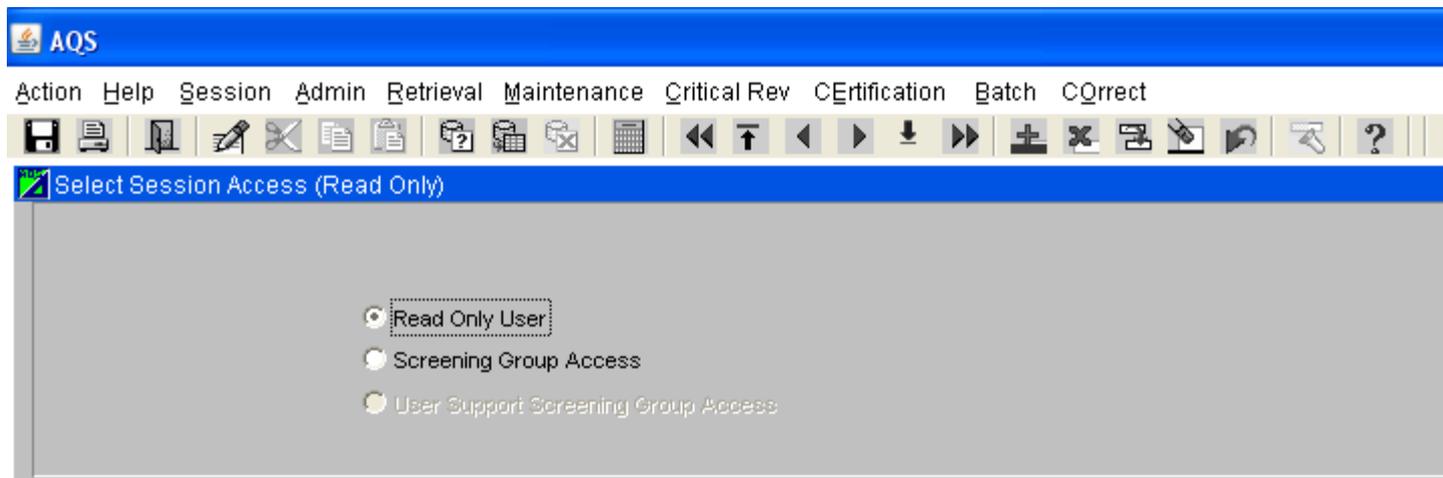


AQS Screening Groups



In This Section We Will Talk About

- Access levels in AQS
 - Read-only access
 - Screening group access
 - Choose access level on login



What is the Difference Between “Read Only” & Screening Group Access?

Menu	Access Type	
	Read-only	Screening Group
Maintenance (browse)	✓ All public data	✓ Only see data (public or not) owned by screening group
Maintenance (update)	✓ No changes can be made	✓ Can change any data in SG
Standard Reports	✓	✓ (plus extra reports)
Batch	✗	✓
Correct	✗	✓

- Signing on With a Screening Group Allows You Into New Areas of the Application
- Using Maintenance in a Screening Group → only access monitors owned by that Screening Group



Screening Group

- **Main Security Mechanism in AQS**
 - Defines What Group Owns a Monitor
 - Only One Group Can Own a Monitor
 - Only the Data Owner Can Change Data for This Monitor
- **Users Are Assigned to One or More Screening Groups**
 - Different Levels of Access Possible
 - Access granted during registration; Can be changed if needed
- **A MONITOR Can Only Be “Owned” by One Screening Group**
- **You Must Select a Screening Group in the Session If You Want to Change Data**

In this class. . .

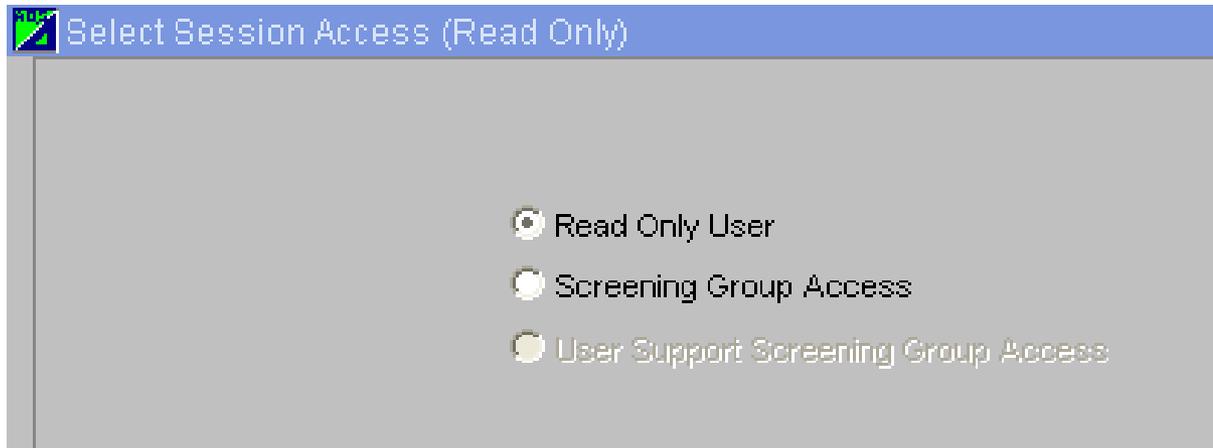
- Each person has a separate Screening Group
- Each person has a unique set of monitors that can be changed
- Screening group is “TRAININGGROUPxx”, where “xx” are last two digits of your Training ID



What If I Want to Change From “Read Only” to “Screening Group” Access?

- From the “Main Menu”

Action Help Session Admin Retrieval Maintenance Critical Rev Certification Batch Correct



- The window title will tell you what screening group you are in

Window Title: Maintain Site (SCHOOL AIR TOXICS MET)

Site Identification

State Code: 01 Alabama
County Code: 073 Jefferson
Site Id: 5505
Status Ind: F

User Coordinates

Horizontal Datum: WGS84
Latitude: 33.55
Longitude: -86.8
UTM Zone:
UTM Easting:
UTM Northing:
Lookup Geography

Standard Coordinates: Datum: WGS84
Latitude: 33.550000
Longitude: -86.800000

Horizontal Method:
Horizontal Accuracy (Meters):
Source Map Scale (Non-GPS):
Vertical Measure (Meters):
Vertical Accuracy (Meters):
Vertical Datum:
Vertical Method:
Street Address:
Land Use Type:
Location Setting:
City Code: 07000 Birmingham
Urban Area Code: 1000 BIRMINGHAM, AL
AQCR Code:
Site Established Date (YYYYMMDD):
Time Zone Name:
Check Completeness
Create Monitor



Browsing Data in AQS

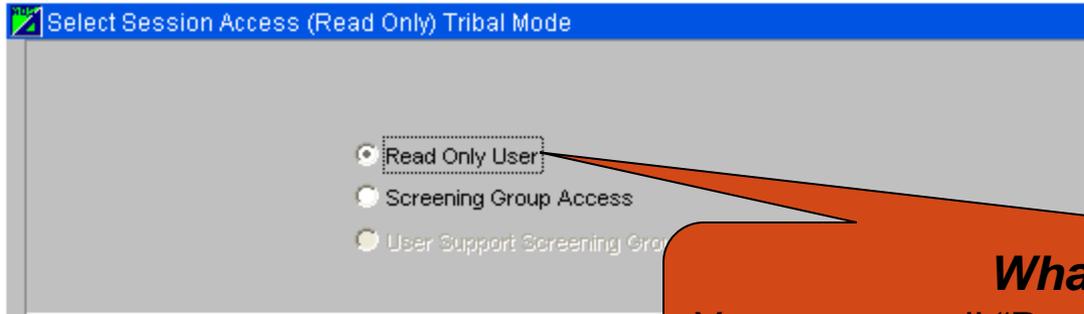


What Can I Browse?

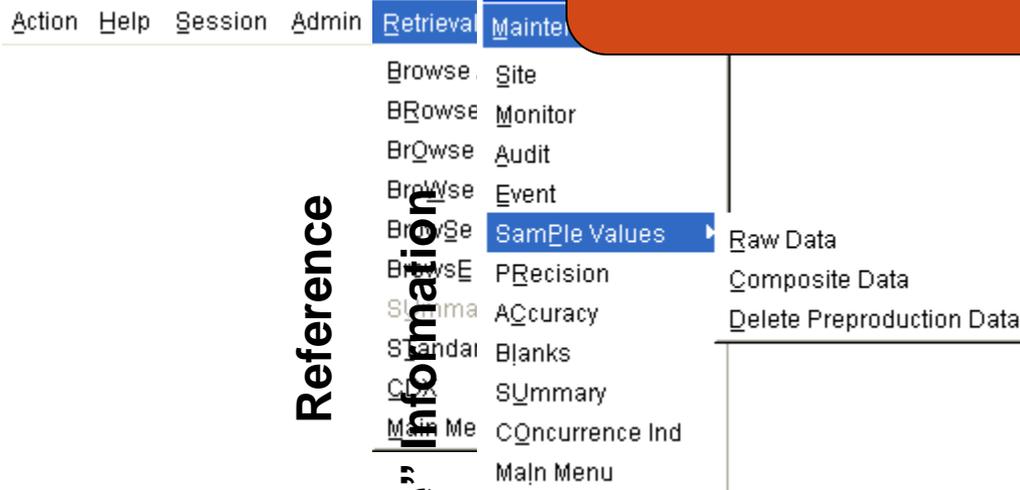
- Reference Information
 - Codes Used in the System
 - Seasonal Definitions
- Data Supplied to AQS in Small Groups of Information
 - Site
 - Monitor
 - Sample Data
 - Summary Data



Where Do I Start?



What does this Mean?
You can see all "Production" data from Anyone
You cannot change any data



Reference
"Core" Information



What's the Big Idea?

- Select the Type of Data you Want
- Get Only the Records You Need by Specifying Filters
- Execute the Query
- Scroll Through the Records



How Do I Do That?

- Select the Type of Data (Reference or Core)
- Get Only the Records You Need by Specifying Filters

Tribal Code State Code County Code Site ID Parameter Code POC

- Execute the Query 
- Scroll Through the Records

Reference

Retrieval

- Browse Annual Summary
- Browse Monitoring Season
- Browse Sample Methodology
- Browse State Threshold
- Browse Parameter
- Browse Audits
- Summary Data Extraction
- Standard Report Selection
- CDX
- Main Menu

“Core” Information

Maintenance

- Site
- Monitor
- Audit
- Event
- Sample Values
 - Raw Data
 - Composite Data
 - Delete Preproduction Data
- Precision
- Accuracy
- Blanks
- Summary
- Concurrence Ind
- Main Menu



Navigation

Tabs

Browse Annual Summary (Read Only) Tribal Mode

Monitor Summary Maximums

Annual Summaries

Tribal Code State Code County Code Site ID Parameter Code POC

Summary Year Duration Code EDT

Obs Lt Half Mdl Observation Pct Geom Std Dev

Arith Std Dev Geometric Mean Arithmetic Mean

Min Sample Value Observation Cnt Sum Method Cnt

Criteria Ind Null Data Obs Cnt Cert Ind

Exp Data Cnt Val GT Pri Std Val GT Sec Std

Days GT Alert Lvl Non Overlap GT Miss Day LT Std

Req Mon Cnt Weighted Mean Ans Type

Direct Entry Ind Valid Day Cnt

Est Days GT Std

Summary Protocols

Mp Id Coll Freq Code Comp Type Alt Mdl

Parameter Code Parameter Desc

Method Code Coll Desc

Anal Desc

Duration Code Duration Desc

Rep Unit Rep Unit Desc

Std Unit Std Unit Desc

Record: 25/?

Blocks

Record in Focus

Fields

Records

Monitor Summary Maximums

Summary Maximums

Max Level	Max Sample Value	Max Coll Date
1	788	20060306
2	787	20060303
3	774	20060309
4	768	20060126
5	768	20060219

Summary Percentiles

Percentile Num	Percentile Sample Value
10	753
25	754
50	757
75	763
90	767



Form Navigation



Previous Block

Next Block

First Record

Last Record

Previous Record

Next Record

Brief Definition of the Field in Focus

Enter a State FIPS code that identifies one of the 50 states or other countries.

Record: 25/? ... <OSC>

The 25th Record of the current block / Unknown Total Number of Records.
Click "Last Record" to get the Total Number

Put it into practice – Exercise 1.3



Standard Reports



How to get information out of AQS

- Standard Reports + Examples
 - Site / Monitor Metadata
 - Detail Data Reports
 - “Raw” Data
 - Extraction Reports
 - Summary Data
 - Audit / Precision & Accuracy Data
 - Raw Data Qualifier
 - Data Certification
 - Design Value
- Custom queries via Discoverer or other SQL tool



Site & Monitor Reports

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

AMP380 – Site Description

AMP390 – Monitor Description

Compare with Annual Monitoring Network Plan.



Detail Data Reports

- “Raw” data from AQS
 - Can import information into spreadsheet for further processing
AMP350 – Raw Data
- Extraction Reports
 - Provide data in AQS transaction format with Insert, Delete or Update codes
 - Very powerful - useful for duplicating and reloading data

AMP500 - Extract Site/Monitor Data

AMP501 - Extract Raw Data

AMP502 - Extract Precision and Accuracy Data

AMP503 - Extract Blanks Data

Reports with delimiters (AMP350, AMP50x) are easy to import into Excel.
Run your report in AQS with the WORKFILE option checked.
The file will be emailed to you. Save it.
Open Excel (or whatever spreadsheet you're using).
Choose “|” as the field separator.



Raw Data

(88101) PM2.5 - Local Conditions

SITE ID: 37-183-0020 POC: 1
 COUNTY: (183) Wake
 CITY: (00000) Not in a city
 SITE ADDRESS: 3720 Lake Wheeler Rd
 SITE COMMENTS: collocated with ARS met station
 MONITOR COMMENTS:

STATE: (37) North Carolina
 AQCR: (166) EASTERN PIEDMONT
 URBANIZED AREA: (0000) NOT IN AN URBAN AREA
 LAND USE: AGRICULTURAL
 LOCATION SETTING: RURAL

CAS NUMBER:
 LATITUDE: 35.7288000009
 LONGITUDE: -78.6802
 UTM ZONE:
 UTM NORTHING:
 UTM EASTING:
 ELEVATION-MSL: 120
 PROBE HEIGHT:

SUPPORT AGENCY: (0776) North Carolina Dept Of Environment And Natural Resources
 MONITOR TYPE: SLAMS
 COLLECTION AND ANALYSIS METHOD: (118) R & P Model 2025 PM2.5 Sequential
 PQAO: (0776) North Carolina Dept Of Environment And Natural Resources

REPORT FOR: 2010

DURATION: 24 HOUR
 UNITS: Micrograms/cubic meter (LC)
 MIN DETECTABLE: 2

Day	JANUARY	FEBRUARY	MARCH	APRIL	MAY	JUNE	JULY	AUGUST	SEPTEMBER	OCTOBER	NOVEMBER	DECEMBER
1												
2				24.7								
3												
4												
5				15.0								
6												
7												
8				8.2								
9												
10												
11				8.6								
12												
13												
14				9.2								
15												
16												
17				AJ								
18												
19												
20				9.2								
21												
22												
23				18.7								
24												
25												
26				7.2								
27												
28												
29												
30												
31												
NO.:	0	0	0	8	0	0	0	0	0	0	0	0
MAX:				24.7								
MEAN:				12.60								
ANNUAL OBSERVATIONS:		8		ANNUAL MEAN:	12.60		ANNUAL MAX:	24.7				

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk ("*") indicates that the region has reviewed the value and does not concur with the qualifier.



Raw Data

(44201) Ozone

SITE ID: 37-183-0014 POC: 1
 COUNTY: (183) Wake
 CITY: (55000) Raleigh
 SITE ADDRESS: 3801 SPRING FOREST RD.
 SITE COMMENTS: PROGRESS ENERGY METER NO. ACDB68089G35
 MONITOR COMMENTS:

STATE: (37) North Carolina
 AQCR: (166) EASTERN PIEDMONT
 URBANIZED AREA: (6639) RALEIGH, NC
 LAND USE: RESIDENTIAL
 LOCATION SETTING: SUBURBAN

CAS NUMBER: 10028-15-6
 LATITUDE: 35.856111
 LONGITUDE: -78.574167
 UTM ZONE:
 UTM NORTHING:
 UTM EASTING:
 ELEVATION-MSL: 100
 PROBE HEIGHT: 4

SUPPORT AGENCY: (0776) North Carolina Dept Of Environment And Natural Resources
 MONITOR TYPE: SLAMS
 COLLECTION AND ANALYSIS METHOD: (047) INSTRUMENTAL ULTRA VIOLET
 PQAQ: (0776) North Carolina Dept Of Environment And Natural Resources

REPORT FOR: APRIL 2010
 DURATION: 1 HOUR
 UNITS: Parts per million
 MIN DETECTABLE: .005

DAY	0000	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	OBS	MAXIMUM
1	.002	.002	.002	BD	.002	.002	.002	.002	.011	.036	.042	.056	.062	.065	.068	.071	.069	.060	.035	.024	.024	.027	.038	.041	23	.071
2	.041	.043	.040	BD	.028	.017	.009	.022	.025	.031	.041	.054	.065	.073	.070	.069	.068	.064	.047	.030	.039	.057	.057	.061	23	.073
3	.058	.057	.053	BD	.048	.042	.039	.042	.044	.052	.055	.056	.056	.057	.056	.056	.053	.050	.042	.033	.030	.031	.031	.036	23	.058
4	.037	.036	.034	BD	.032	.032	.025	.026	.034	.043	.046	.054	.059	.062	.059	.057	.058	.055	.046	.019	.014	.017	.019	.025	23	.062
5	.026	.029	.028	BD	.024	.016	.005	.013	.022	.030	.043	.053	.059	.059	.057	.054	.050	.046	.034	.025	.035	.037	.040	.037	23	.059
6	.037	.035	.033	BD	.031	.024	.017	.022	.028	.036	.042	.050	.054	.052	.052	.056	.055	.049	.048	.042	.042	.043	.041	.040	23	.056
7	.039	.037	.037	BD	.035	.028	.024	.027	.035	.041	.048	.049	.049	.049	.050	.051	.050	.050	.049	.044	.041	.040	.038	.037	23	.051
8	.036	.036	.034	BD	.032	.027	.021	.023	.028	.036	.041	.041	.038	.038	.039	.038	.040	.039	.037	.037	.039	.031	.031	.038	23	.041
9	.033	.032	.040	BD	.033	.030	.033	BF	BF	.037	.036	.042	.045	.047	.049	.049	.050	.043	.026	.022	.022	.021	.027	21	.050	
10	.030	.023	.024	BD	.014	.005	.006	.031	.041	.046	.049	.051	.053	.053	.054	.054	.056	.054	.033	.017	.018	.017	.011	.008	23	.056
11	.019	.016	.016	BD	.018	.010	.008	.026	.036	.049	.052	.054	.058	.059	.059	.057	.057	.053	.041	.027	.029	.022	.018	.029	23	.059
12	.034	.032	.027	BD	.013	.005	.002	.006	.016	.040	.046	.052	.056	.060	.060	.062	.062	.061	.034	.030	.029	.044	.042	.040	23	.062
13	.031	.023	.010	BD	.005	.002	.006	.016	.030	.033	.044	.051	.055	.055	.056	.058	.059	.055	.050	.054	.048	.042	.048	.048	23	.059
14	.044	.043	.044	BD	.045	.043	.042	.040	.041	.044	.046	.043	.038	.040	.041	.040	.039	.038	.037	.026	.018	.017	.017	.009	23	.046
15	.010	.006	.002	BD	.002	.002	.002	.007	.029	.036	.040	.042	.044	.052	.054	.056	.057	.055	.040	.025	.013	.002	.002	.002	23	.057
16	.002	.002	.002	BD	.018	.005	.002	.017	.036	.041	.047	.057	.067	.068	.069	.067	.065	.063	.061	.054	.054	.051	.047	.049	23	.069
17	.048	.049	.050	BD	.045	.037	.033	.034	.040	.042	.043	.043	.045	.047	.049	.050	.052	.054	.051	.045	.048	.053	.052	.049	23	.054
18	.046	.041	.038	BD	.034	.028	.025	.034	AV	.042	.049	.048	.048	.049	.051	.051	.051	.049	.045	.033	.012	.011	.002	.007	22	.051
19	.012	.020	.022	BD	.017	.014	.007	.016	.021	.028	.033	.036	.039	.041	.044	.045	.046	.046	.044	.021	.028	.020	.021	.018	23	.046
20	.011	.002	.002	BD	.002	.002	.002	.002	.015	.039	.048	.050	.053	.055	.056	.056	.052	.049	.041	.031	.031	.035	.037	.034	23	.056
21	.038	.031	.018	BD	.018	.013	.013	.014	.016	.018	.032	.035	.032	.033	.038	.040	.041	.036	.029	.025	.012	.008	.019	.022	23	.041
22	.017	.002	.002	BD	.015	.013	.012	.022	.033	.042	.051	.062	.063	.064	.065	.067	.066	.064	.053	.026	.005	.006	.014	.015	23	.067
23	.029	.043	.036	BD	.012	.002	BF	BF	.006	.021	.034	.032	.037	.039	.043	.044	.044	.046	.040	.027	.010	.002	.002	.002	21	.046
24	.002	.002	.017	BD	.025	.021	.020	.025	.031	.036	.044	.048	.050	.053	.045	.037	.038	.035	.033	.027	.025	.026	.024	.017	23	.053
25	.023	.031	.032	BD	.032	.035	.034	.032	.030	.030	.031	.030	.032	.033	.034	.035	.034	.033	.031	.022	.027	.027	.026	.026	23	.035
26	.026	.024	.020	BD	.021	.012	.012	.022	.033	.040	.044	.045	.045	.047	.048	.046	.048	.045	.043	.037	.038	.038	.036	.033	23	.048
27	.032	.031	.030	BD	.027	.025	.025	.031	.038	.041	.042	.040	.041	.043	.046	.047	.044	.045	.044	.039	.029	.026	.028	.033	23	.047
28	.036	.039	.034	BD	.027	.026	.022	.033	.038	.039	.039	.041	.043	.045	.047	.048	.048	.048	.045	.038	.024	.006	.002	.002	23	.048
29																									0	
30																									0	
31																									0	
NO.:	28	28	28		28	28	27	26	26	28	28	28	28	28	28	28	28	28	28	28	28	28	28	28		
MAX:	.058	.057	.053		.048	.043	.042	.042	.044	.052	.055	.062	.067	.073	.070	.071	.069	.064	.061	.054	.054	.057	.057	.061		
AVG:	.0285	.0274	.0260		.0234	.0185	.0166	.0225	.0291	.0375	.0431	.0470	.0495	.0514	.0521	.0522	.0518	.0497	.0420	.0316	.0280	.0274	.0273	.0280		

MONTHLY OBSERVATIONS: 639 MONTHLY MEAN: .0353 MONTHLY MAX: .073

Note: Qualifier codes with regional concurrence are shown in upper case, and those without regional review are shown in lower case. An asterisk (***) indicates that the region has reviewed the value and does not concur with the qualifier.



Extract Site/Monitor Data

AA||37|183|0014|+35.856111|-78.574167||||103|WGS84|24000|3.04|100|EASTERN|0776|3801 SPRING FOREST RD.|55000|6639|166|
RESIDENTIAL|SUBURBAN|19890417||27616|13|1033||05400||E Millbrook Middle School||||NE|13|ON-SITE MET EQUIP||||014|MEAN SEA-LEVEL|5
AB||37|183|0014|1|SPRING FOREST ROAD|MAJ ST OR HY|25000|2003|S|DOT

MA||37|183|0014|44201|1|01|AREA|NEIGHBORHOOD||4||||||||||||

MB||37|183|0014|44201|1|19890417|20050601
MB||37|183|0014|44201|1|20050616|20060807
MB||37|183|0014|44201|1|20060816|

MC||37|183|0014|44201|1|SLAMS|19890417|
MC||37|183|0014|44201|1|NAMS|19890627|20061231
MC||37|183|0014|44201|1|NCORE|20100701|

MD||37|183|0014|44201|1|ANALYZING|0776|19890417|
MD||37|183|0014|44201|1|COLLECTING|0776|19890417|
MD||37|183|0014|44201|1|REPORTING|0776|19890417|
MD||37|183|0014|44201|1|PQAO|0776|20070101|

ME||37|183|0014|44201|1|MAX OZONE CONCENTRATION||||39580|
ME||37|183|0014|44201|1|POPULATION EXPOSURE|6639|||

MG||37|183|0014|44201|1|1|47

MI||37|183|0014|44201|1|RM|Y|19880901
MI||37|183|0014|44201|1|SC|Y|19880901
MI||37|183|0014|44201|1|QC|Y|19890401

MK||37|183|0014|44201|1|1|1|007|047|||
MK||37|183|0014|44201|1|2|1|007|014|||
MK||37|183|0014|44201|1|3|1|007|019|||
MK||37|183|0014|44201|1|4|1|008|047|||
MK||37|183|0014|44201|1|5|1|008|019|||

Report generates delimited output.
Can be used to create additional monitors.



Extract Raw Data

```
# RD|Action Code|State Code|County Code|Site ID|Parameter|POC|Sample Duration|Unit|Method|Date|Start Time|Sample Value|Null Data Code|Sampling Frequency|Monitor Protocol (MP) ID|Qualifier - 1|Qualifier - 2|Qualifier - 3|Qualifier - 4|Qualifier - 5|Qualifier - 6|Qualifier - 7|Qualifier - 8|Qualifier - 9|Qualifier - 10|Alternate Method Detectable Limit|Uncertainty
# RC|Action Code|State Code|County Code|Site ID|Parameter|POC|Unit|Method|Year|Period|Number of Samples|Composite Type|Sample Value|Monitor Protocol (MP) ID|Qualifier - 1|Qualifier - 2|Qualifier - 3|Qualifier - 4|Qualifier - 5|Qualifier - 6|Qualifier - 7|Qualifier - 8|Qualifier - 9|Qualifier - 10|Alternate Method Detectable Limit|Uncertainty
RD||37|183|0014|44201|1|1|007|047|20100401|00:00|0.000|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|01:00|0.000|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|02:00|0.001|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|03:00|BD|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|04:00|0.000|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|05:00|0.000|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|06:00|0.001|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|07:00|0.002|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|08:00|0.011|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|09:00|0.036|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|10:00|0.042|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|11:00|0.056|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|12:00|0.062|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|13:00|0.065|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|14:00|0.068|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|15:00|0.071|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|16:00|0.069|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|17:00|0.060|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|18:00|0.035|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|19:00|0.024|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|20:00|0.024|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|21:00|0.027|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|22:00|0.038|||||||||||||
RD||37|183|0014|44201|1|1|007|047|20100401|23:00|0.041|||||||||||||
```

Report can capture a time range of data.
Use report options to specify “delete” transactions.
Use report options to specify “update” (maybe to add qualifiers?)



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 – QuickLook

AMP435 – Daily Summary (ranks daily values for a year)

AMP355 – Combined Site Sample Values (only for NO₂, SO₂, PM_{2.5}, lead)

AMP440 – Maximum Values Report (top 10 values for a year)

AMP300 – Violation Day Count (reports exceedances for a year)

AMP410 – Air Quality Index Report (look at historical AQI values)



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 COMP	ARITH MEAN	CERT	EDT
									MAX 1-HR	MAX 1-HR						
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	VALID DAYS	NUM DAYS	1ST	2ND	3RD	4TH	DAY	EST	MISS	CERT	EDT
										MAX	MAX	MAX	MAX	MAX>	DAYS>	DAYS<		
55-117-0006	1	1175	Not in a city	Sheboygan	E12886 TOWER RD KOHLEER 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	
No no 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 .



Daily Summary - ozone

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
AIR QUALITY SYSTEM
DAILY SUMMARY REPORT

Aug. 16, 2012

Monitor ID	Daily Coll. Date	Duration	EDT ID	Daily Arith Mean	Daily # Obs	Daily % Obs	Daily Coll Hour	Daily Max Sample Value	Daily Ranking Num
37-183-0014-44201-1	20100401	8-HR RUN AVG BEGIN HOUR	0	.03567	24	100.0	10	.0610	27
37-183-0014-44201-1	20100402	8-HR RUN AVG BEGIN HOUR	0	.04704	24	100.0	10	.0630	16
37-183-0014-44201-1	20100403	8-HR RUN AVG BEGIN HOUR	0	.04383	24	100.0	9	.0550	70
37-183-0014-44201-1	20100404	8-HR RUN AVG BEGIN HOUR	0	.03650	24	100.0	10	.0560	58
37-183-0014-44201-1	20100405	8-HR RUN AVG BEGIN HOUR	0	.03596	24	100.0	10	.0520	93
37-183-0014-44201-1	20100406	8-HR RUN AVG BEGIN HOUR	0	.04013	24	100.0	11	.0520	94
37-183-0014-44201-1	20100407	8-HR RUN AVG BEGIN HOUR	0	.04017	24	100.0	10	.0490	113
37-183-0014-44201-1	20100408	8-HR RUN AVG BEGIN HOUR	0	.03417	24	100.0	10	.0390	200
37-183-0014-44201-1	20100409	8-HR RUN AVG BEGIN HOUR	0	.03476	21	88.0	11	.0460	137
37-183-0014-44201-1	20100410	8-HR RUN AVG BEGIN HOUR	0	.03092	24	100.0	10	.0530	86
37-183-0014-44201-1	20100411	8-HR RUN AVG BEGIN HOUR	0	.03563	24	100.0	10	.0560	59
37-183-0014-44201-1	20100412	8-HR RUN AVG BEGIN HOUR	0	.03492	24	100.0	10	.0570	50
37-183-0014-44201-1	20100413	8-HR RUN AVG BEGIN HOUR	0	.04067	24	100.0	12	.0550	71
37-183-0014-44201-1	20100414	8-HR RUN AVG BEGIN HOUR	0	.03067	24	100.0	0	.0430	154
37-183-0014-44201-1	20100415	8-HR RUN AVG BEGIN HOUR	0	.02396	24	100.0	10	.0500	108
37-183-0014-44201-1	20100416	8-HR RUN AVG BEGIN HOUR	0	.04542	24	100.0	11	.0640	11
37-183-0014-44201-1	20100417	8-HR RUN AVG BEGIN HOUR	0	.04442	24	100.0	14	.0500	109
37-183-0014-44201-1	20100418	8-HR RUN AVG BEGIN HOUR	0	.03250	24	100.0	10	.0490	114
37-183-0014-44201-1	20100419	8-HR RUN AVG BEGIN HOUR	0	.02517	24	100.0	11	.0420	166
37-183-0014-44201-1	20100420	8-HR RUN AVG BEGIN HOUR	0	.03246	24	100.0	10	.0520	95
37-183-0014-44201-1	20100421	8-HR RUN AVG BEGIN HOUR	0	.02217	24	100.0	10	.0350	238
37-183-0014-44201-1	20100422	8-HR RUN AVG BEGIN HOUR	0	.03533	24	100.0	11	.0630	17
37-183-0014-44201-1	20100423	8-HR RUN AVG BEGIN HOUR	0	.02335	20	83.0	11	.0400	189
37-183-0014-44201-1	20100424	8-HR RUN AVG BEGIN HOUR	0	.03138	24	100.0	8	.0430	155
37-183-0014-44201-1	20100425	8-HR RUN AVG BEGIN HOUR	0	.02896	24	100.0	1	.0320	267
37-183-0014-44201-1	20100426	8-HR RUN AVG BEGIN HOUR	0	.03513	24	100.0	10	.0460	138
37-183-0014-44201-1	20100427	8-HR RUN AVG BEGIN HOUR	0	.03588	24	100.0	9	.0430	156
37-183-0014-44201-1	20100428	8-HR RUN AVG BEGIN HOUR	0	.02842	24	100.0	11	.0450	144



Maximum Values – PM10

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)

					Maximum Values					Num	Num	EDT
Site ID	POC	County Name	City Name	Methods	1st Max	2nd Max	3rd Max	4th Max	5th 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			
										Maximum Values		

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



Audit Reports

- Audit Data (Precision and Bias data)
 - 1-Point Quality Control
 - Annual Performance Evaluations
 - Flow Rate Verifications
 - Semi-Annual Flow Rate Audits
 - Collocation information
 - Performance Evaluation Program (PEP)
 - Single and collocated monitor precision checks

AMP255 - Data Quality Indicator*

AMP250 - P/A Raw Data Report

AMP246 - Precision Report

* Have report results emailed to you



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

Use report options to specify which type of qualifier.

Use to see status of Regional Office concurrence on Exceptional Events.



Raw Data Qualifiers

United States Environmental Protection Agency
Air Quality System
Raw Data Qualifier Report (v 1.1)

Report Date: Aug. 16, 2012

Parameter: Ozone (44201)

Standard Units: Parts per million (007)

Monitor Key / Site Address	Sample Date-Time	Value	Code	Description	Action Date	NAAQS Standard	Concurrence Ind Date
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 09:00	.064	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 10:00	.068	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 11:00	.067	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 12:00	.067	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 13:00	.065	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 14:00	.062	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 15:00	.064	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 16:00	.061	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 17:00	.057	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 18:00	.057	RO	Stratospheric Ozone Intrusion	2011-04-21		
56-039-1011-44201-1 YELLOWSTONE NATIONAL PARK	2010-06-07 19:00	.047	RO	Stratospheric Ozone Intrusion	2011-04-21		



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.
 - Available for Lead, NO₂, Ozone, PM₁₀, PM_{2.5}, and SO₂
- AMP480 - Design Values Report *

* Have report results emailed to you



Design Values

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

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.



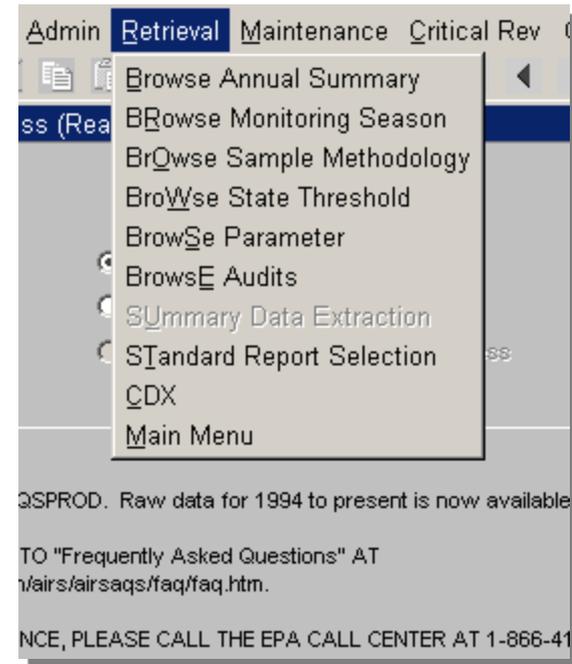
Data Certification Reports

- **AMP450 - Quick Look Criteria**
for CO, NO₂, SO₂, ozone, PM₁₀, PM_{2.5}, and lead (12128)
choose “Include Events”
- **AMP450NC - Quick Look All**
for all other pollutants & lead (14129)
- **AMP255 - Data Quality Indicator**



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.
- Batch vs online delivery
 - Online: Report delivered in a pop-up window in your web browser
 - Email/Batch: Report is delivered as a link in an email to you



Standard Reports: Criteria Set

Standard Report Criteria Selection (T50) AMP410 Tribal Mode

Criteria Set | Monitor Selection | Area Selection | Sort Order | Report Options | Retrieve Reports

Criteria Set Desc

Owner Type

Report Code Report Name

Run Online
 Send via Email
 Send to CDX

Report Outputs
 REPORT
 WORKFILE
 XML

Print Format
File Name

Report Selection Mode
 Monitor Selection(detail)
 Area Selection



Overview of “and/or” in selections

Standard Report Criteria Selection (T50) AMP350

Criteria Set | Monitor Selection | Area Selection | Sort Order | Report Options | Retrieve Reports

Site-Monitor Criteria

State Code	County Code	Site Id	Parameter Code	POC	Method Code	Duration Code	Start Date	End Date
YYYY	MM	DD	YYYY	MM	DD	YYYY	MM	DD

Global Report Criteria

Pollutant Type	Parameter Code	Method Code	Duration Code

Global Date Range

Start Date	End Date				
YYYY	MM	DD	YYYY	MM	DD

Generate Report

- 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 1: and/or in Selections

Standard Report Criteria Selection (Read Only) AMP350

Criteria Set | Monitor Selection | Area Selection | Sort Order | Report Options | Retrieve Reports

Geographical Criteria

State Code	County Code	Site Id	City Code	AQCR Code	UAR Code	CBSA Code	CSA Code	EPA Region Code
19								

Monitor Type: Land Use Type: PQAQ: 1080 University Hygenic Laboratory

Protocol Criteria

Pollutant Type	Parameter Code	Method Code	Duration Code

Date Criteria

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

Generate

- All monitors in Iowa reported by University Hygenic Laboratory during January '98
- State 19 AND reporting agency 1080 AND all pollutants AND (>19980101 AND <19980131)



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

Standard Report Criteria Selection (Read Only) AMP350

Criteria Set | Monitor Selection | Area Selection | Sort Order | Report Options | Retrieve Reports

Geographical Criteria

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

Monitor Type:
 Land Use Type:
 PQAQ:

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

Generate

- 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 (Read Only) AMP350

Criteria Set | Monitor Selection | Area Selection | Sort Order | Report Options | Retrieve Reports

Geographical Criteria

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

Monitor Type | Land Use Type | PQAQ

Protocol Criteria

Pollutant Type	Parameter Code	Method Code	Duration Code
	44201		
	42401		

Date Criteria

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

1998 01 01 | 1998 01 31

Generate Report

- 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 (Lbauder) AMP350

Criteria Set | Monitor Selection | Area 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



Standard Reports: Report Options

The screenshot shows the AQS Standard Report Criteria Selection interface. The 'Report Options' tab is active, displaying a table of criteria sets and their options. A dropdown menu is open for the 'EVENTS PROCESSING' criteria set, showing options like 'INCLUDE EVENTS' and 'EXCLUDE EVENTS'. A separate window titled 'Option Values' is also visible, showing a list of option values. Below the table, there is a section for 'Applicable Standards Information' with a list of standards and a dropdown menu. A 'Generate Report' button is at the bottom left.

Criteria Set	Monitor Selection	Area Selection	Sort Order	Report Options	Retrieve Reports
EVENTS PROCESSING				REPORT ALL EVENT RECORDS	
MERGE PDF FILES				YES	

Option Values

Find %

Option_Value

- INCLUDE EVENTS
- EXCLUDE EVENTS
- EXCLUDE REGIONALLY CONCURRED EVENTS
- REPORT ALL EVENT RECORDS

Applicable Standards Information

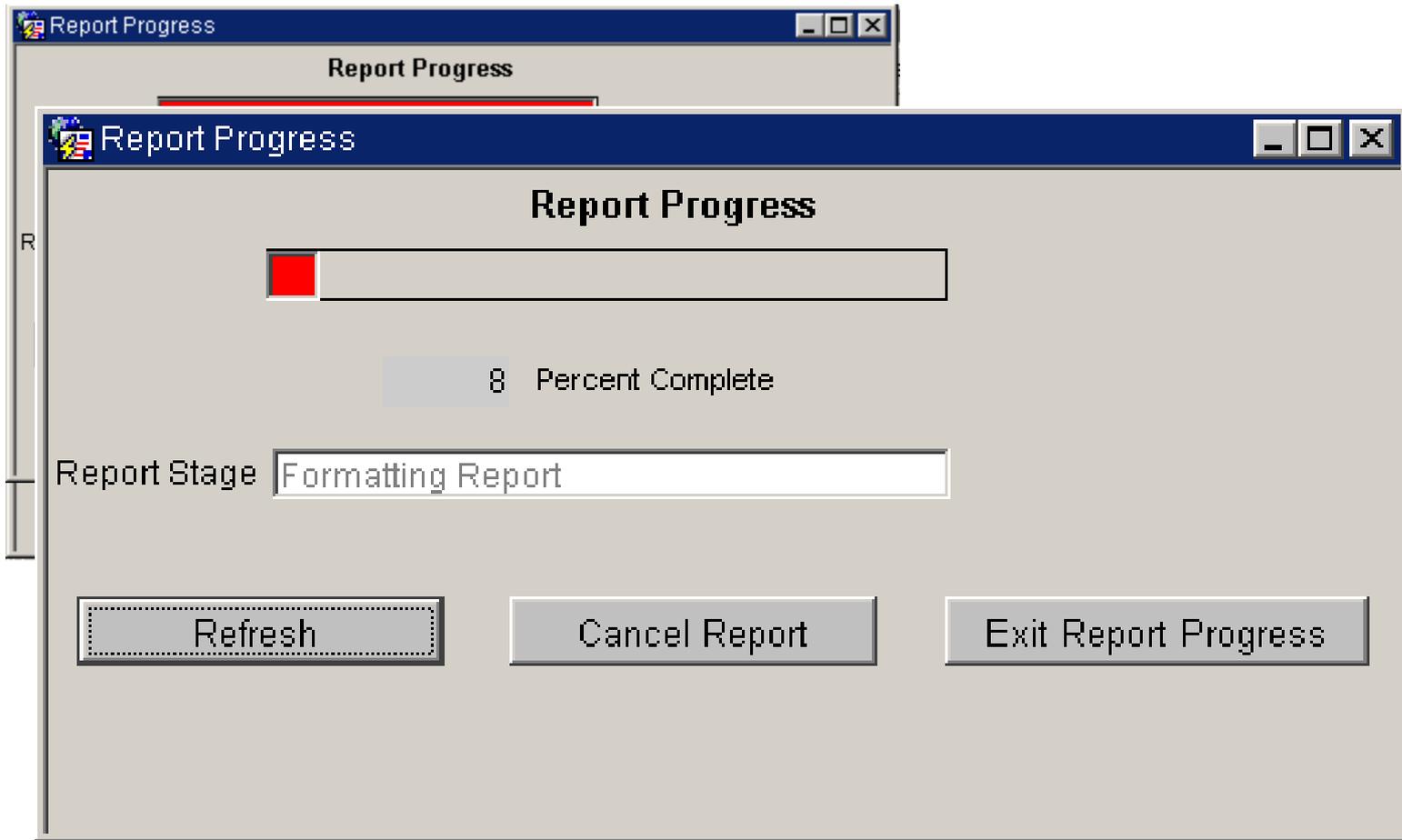
- NO2 Annual 1971
- Ozone 8-Hour 2008
- PM10 24-hour 2006
- Lead 3-Month PM10 Surrogate 2009
- PM25 Annual 2006
- SO2 1-hour 2010

Generate Report

Defaults are shown;
Where applicable,
the drop-down offers
other standards



Standard Reports: Progress Popup



Standard Reports: Retrieve Reports

Standard Report Criteria Selection (Lbauder) AMP350

Criteria Set | Monitor Selection | Area Selection | Sort Order | Report Options | Retrieve Reports

User Id	Report Code	Request Type	Request Date	Report Stage	% Complete
BIB	AMP350	ONLINE	03/30/2004 08:25 PM	Cancelled	100
BIB	AMP501	ONLINE	03/30/2004 07:25 PM	Completed	100
BIB	AMP500	ONLINE	03/30/2004 07:19 PM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP440	BATCH	03/30/2004 11:17 AM	Completed	100
BIB	AMP260	BATCH	03/30/2004 11:16 AM	Completed	100
BIB	AMP260	BATCH	03/30/2004 11:16 AM	Completed	100
BIB	AMP260	BATCH	03/30/2004 11:16 AM	Completed	100
BIB	AMP260	BATCH	03/30/2004 11:16 AM	Completed	100

Retrieve Report | Refresh Query | Cancel Report | Delete Report



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

Put it into practice - Exercise 1.4

