



Air Quality System (AQS) Database Basics

March 23, 2021 (Webinar1)

Tribal Air Monitoring



Support Center

NAU NORTHERN ARIZONA
UNIVERSITY



Webinar Logistics



- Webinar is being recorded – URL for the recording will be in post-webinar email and posted at [http://www7.nau.edu/itep/main/training/Webinars air2021](http://www7.nau.edu/itep/main/training/Webinars_air2021)
- Please complete the webinar feedback survey – Link for the feedback survey will be in post-webinar email
- Certificates will be emailed to participants
- Webinar 2 will be held on March 30, 2021

Thank you for joining the webinar!

Tuesday, March 30, 2021; 10:00am-11:30am Pacific Time

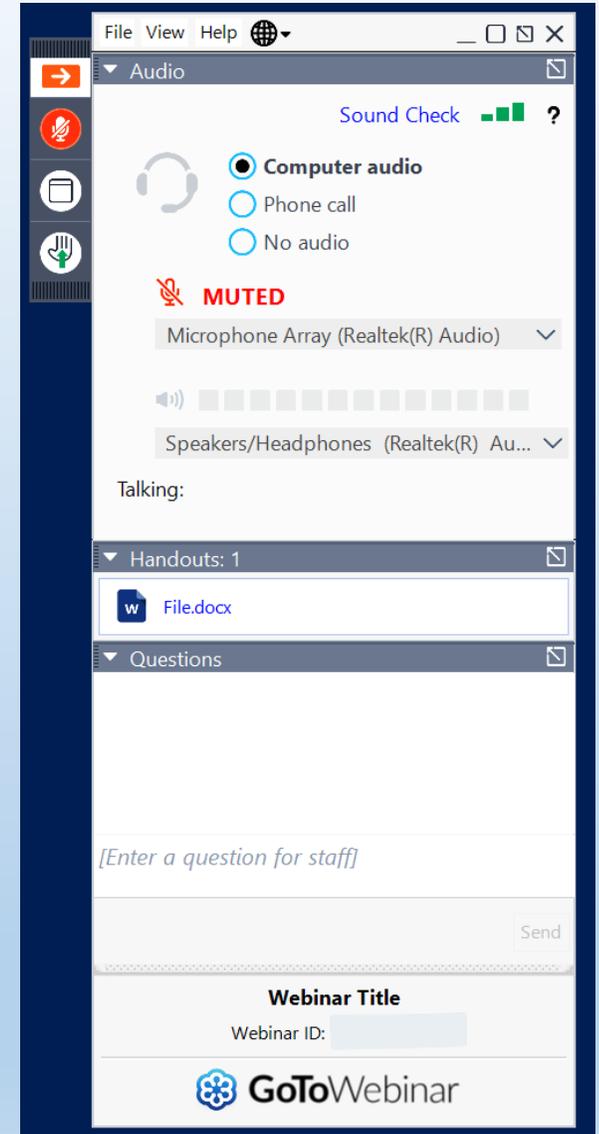
 Submit questions in the "Questions" pane

 Raise your hand if you would like to be unmuted

 Download files from the "Handouts" pane



Presented by the Institute for Tribal Environmental Professionals
American Indian Air Quality Training Program
Questions? Contact Christal.Black@nau.edu





Polling Questions

Poll Question 1



- Which of the following best describes your role?
 - Environmental Staff
 - Community or Tribal Leader
 - Federal or State Partner
 - Other

Poll Question 2



- How many years have you worked in Air Quality?
 - Less than a year
 - 1-3 years
 - 3-5 years
 - 5-10 years
 - Over 10 years

Presenters



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Chris Chapman
US EPA OAQPS



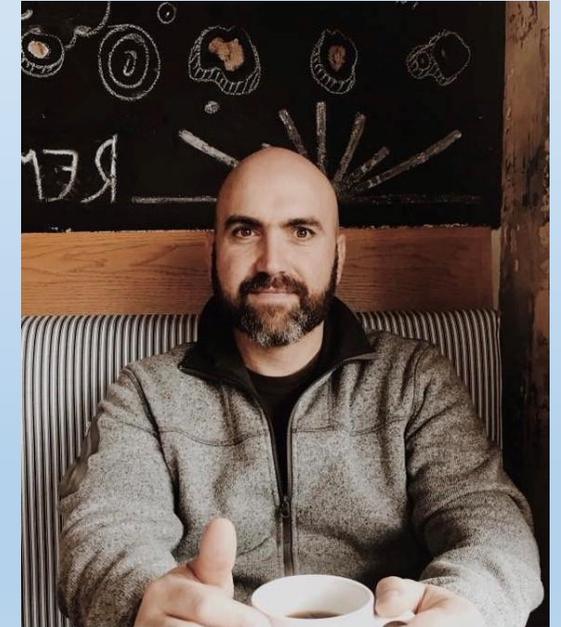
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Michael Brooks
US EPA OAQPS



Brooks.MichaelS@epa.gov

Overview

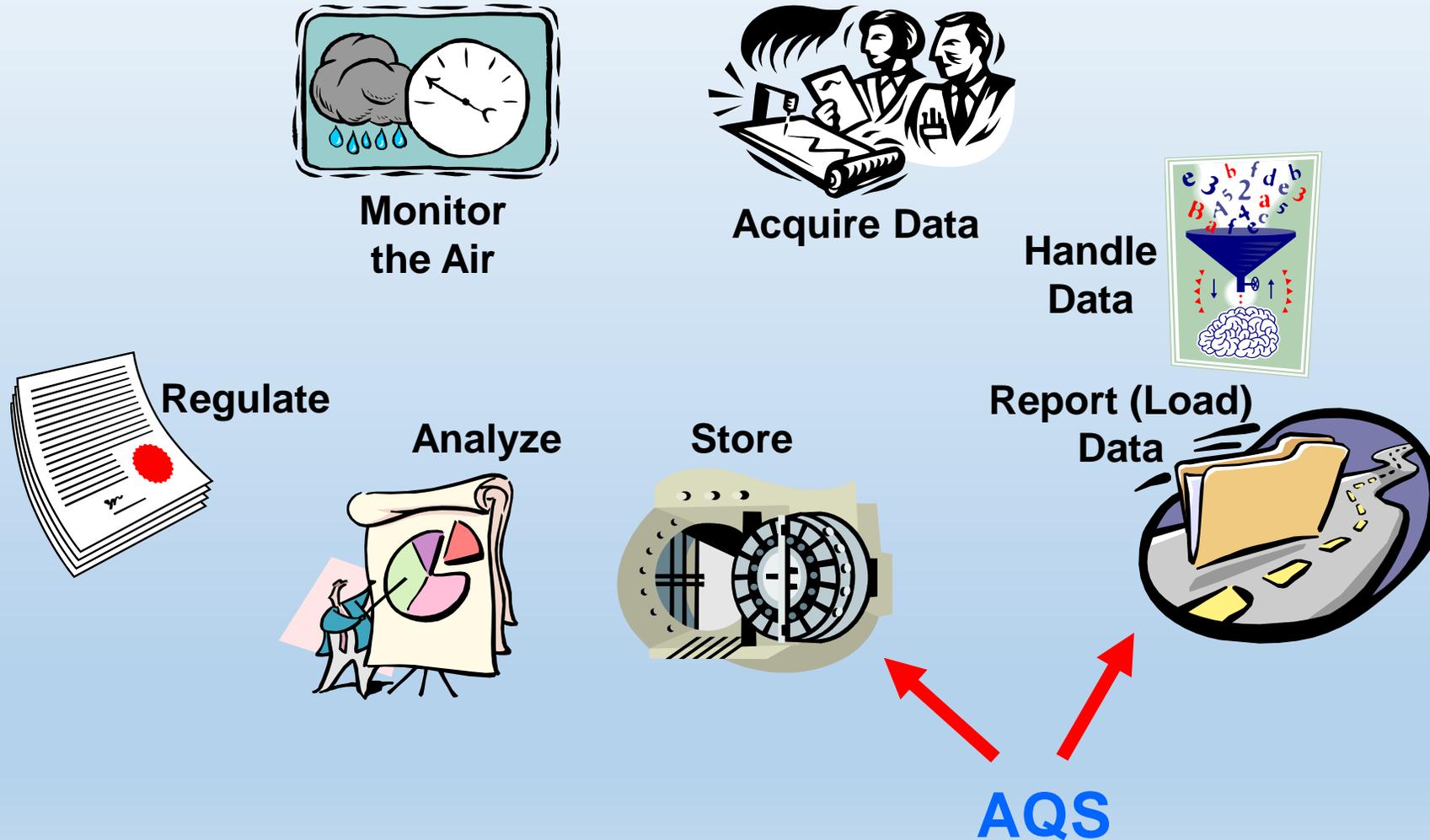


- What is the AQS Database
- How to Gain Access to AQS
- Logging into AQS and AQS User Interface
- AQS Data & Basic AQS Codes
- AQS Data Retrieval
- US EPA AQS Resources & Training Materials

What is AQS?... What Does it Do?

- The Air Quality System (AQS) is AQS is an EPA administered database for handling the **storage and retrieval** of ambient or outdoor air quality data.
- AQS Centralizes the Location of Data
 - Contains air pollution and meteorological data
 - Descriptive monitoring site information (includes geographic location and its operator),
 - Data quality assurance & control information
- AQS Database is used to assist in the collection and maintenance of air quality data to establish and **enforce air quality standards** set forth by CAA

How Does AQS Fit in the Big Picture?



Poll Question 3



- Are you a current Air Quality System user?
 - Yes
 - No
 - Soon to be an AQS user

How to Gain Access to AQS

- Go to the AQS database website:
<https://www.epa.gov/aqs>
- Under “AQS Support”
- Click “New User Registration”

EPA United States Environmental Protection Agency

Environmental Topics Laws & Regulations About EPA Search EPA.gov

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Air Quality System (AQS)

Please note that the AQS User Support Process has changed. [View here.](#)

The Air Quality System (AQS) contains ambient air pollution data collected by EPA, state, local, and tribal air pollution control agencies from over thousands of monitors. AQS also contains meteorological data, descriptive information about each monitoring station (including its geographic location and its operator), and data quality assurance/quality control information. AQS data is used to:

- assess air quality,
- assist in attainment/non-attainment designations,
- evaluate State Implementation Plans for non-attainment areas,
- perform modeling for permit review analysis, and
- prepare reports for Congress as mandated by the [Clean Air Act](#).

AQS Support

- [New User Registration](#)
- [How to Obtain User Support](#)
- [Training](#)
- [AQS News \(RSS\)](#)
- [Events Calendar](#)

Documentation

- [All Manuals and Guides](#)
- [AQS Users Guide](#)
- [AQS Code Lists](#)
- [Data Dictionary](#)
- [Data Coding Manual](#)

Additional Resources

- [Monitoring and Policy Memos](#)
- [Memos About Reporting Pollutants](#)
- [Quality Assurance & Audit Memos](#)
- [Archive Data](#)
- [Related Resource Links](#)

Obtaining AQS Data

- [How to Obtain AQS Data](#)
- [API](#)
- [About the AQS Data Mart](#)
- [Pre-Generated Data Files](#)
- [AirData](#)

Tools to Upload AQS Data

Environmental Information **exchange Network**

AQS Launch Web Application

[Contact Us](#) to ask a question, provide feedback, or report a problem.

Complete New User Registration & Accept User Security Guidelines

- Email both sheets to EPA Enterprise IT Service Desk at EISD@epa.gov
- Toll Free Number **1-866-411-4EPA – (4372)**
- Will be contacted and provided user Name and Temporary password to access AQS database

 Air Quality System - User Registration 

User Section Type all known entries before printing.

First Name Initial Last Name

Agency Address

City County

State Zip Code E-Mail

Phone Fax

User Type (Check one) State Tribe EPA Regional Office Other Federal
 Local Contractor EPA Headquarters
 If none of these apply, contact epacallcenter@epa.gov

User Signature _____ Date **4/4/17**

Agency Name _____ Agency Code _____

AQS Contact Name _____

Phone Number _____

FAX Number _____

Screening Group Name(s) (if other than Read Only access requested)	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				
	<input type="checkbox"/>				

Agency AQS Contact Signature _____ Date: _____

State/Tribe Section *If this registration is for a local agency that needs State/Tribal approval, both the Agency and State/Tribal sections and Contact signatures must be provided. Otherwise, skip this section.

State/Tribe AQS Contact Signature _____ Date: _____

EPA Region Section

If you receive an AQS User Registration request, please forward the email request to AQS_Team@epa.gov

Form date: 2/8/14

Whom To Notify

AQS User Support is provided through the EPA Enterprise IT Service Desk operated under contract to the EPA. The toll free number is 1-866-411-4EPA option 9. TDD: 1-866-489-4900, International callers: 1-703-679-1070. The operation are 6:00am - 9:00pm E.T. (Monday - Friday, excluding Federal h may also contact the Call Center via email (EISD@epa.gov) or fax (703-6

Summary

This information was prepared to advise you of the security measures for th The goal is to assure that the contents and integrity of AQS data will be sec maintain security for the data provided in AQS, these guidelines must be fo security measures that have been established are designed to protect the dat and tribal agencies submit, while at the same time protecting the computer : operates.

AQS User Security Guidelines Signature Page

I have read the AQS User Security Guidelines and will comply with what has been outlined to insure the security of AQS is not violated.

Agency of AQS User

Printed Name of AQS User

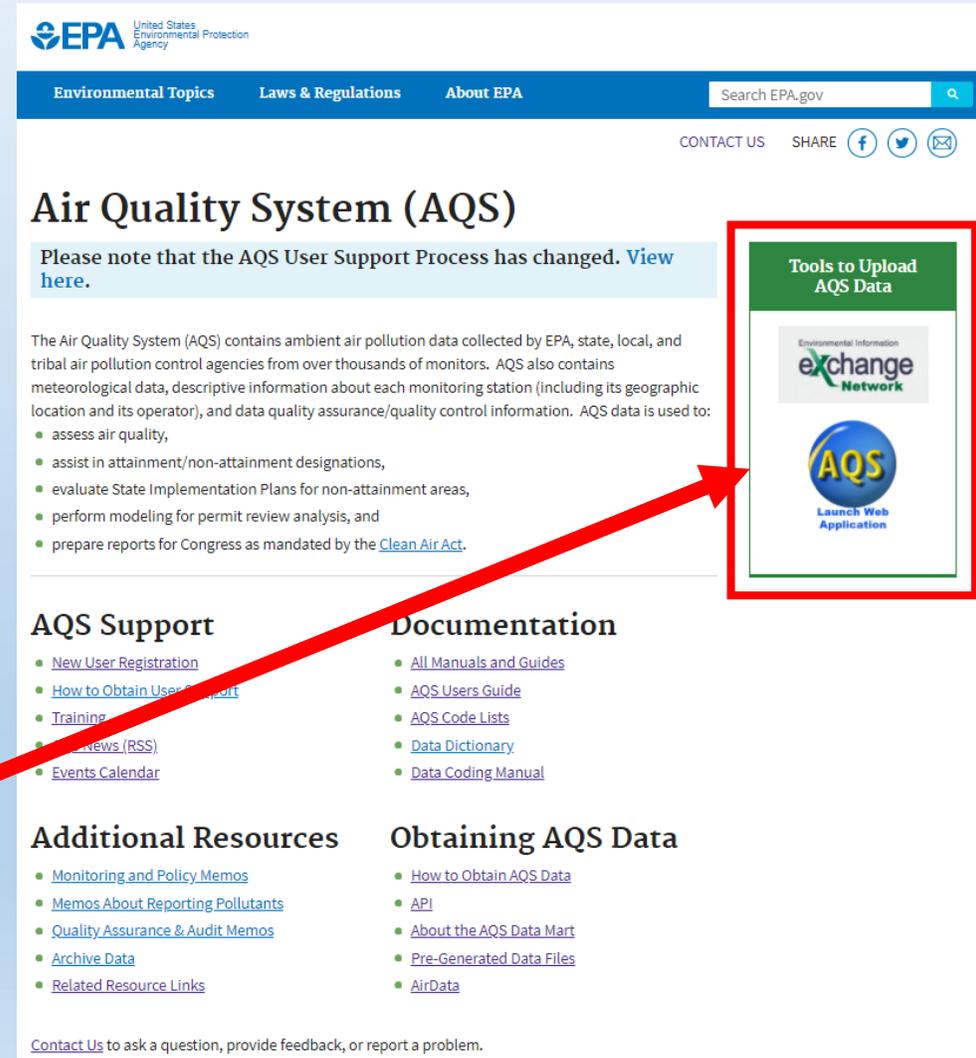
Signature of AQS User

Date

3

How to Launch the AQS Database

- Go to the AQS website:
<https://www.epa.gov/aqs>
- AQS database uses Oracle database software
- You will need to download Java runtime
 - Go to <https://java.com/en/download/>
- Click on “AQS Launch Web Application”



The screenshot shows the EPA website's Air Quality System (AQS) page. The header includes the EPA logo and navigation links for Environmental Topics, Laws & Regulations, and About EPA. A search bar is present in the top right. The main heading is "Air Quality System (AQS)". Below it, a notice states: "Please note that the AQS User Support Process has changed. View here." The main text describes the AQS database and lists its uses: assess air quality, assist in attainment/non-attainment designations, evaluate State Implementation Plans, perform modeling for permit review analysis, and prepare reports for Congress. A red box highlights the "Tools to Upload AQS Data" section, which contains the "AQS Launch Web Application" button. A red arrow points from the text "Click on 'AQS Launch Web Application'" to this button. Below the main text are sections for "AQS Support" (with links for New User Registration, How to Obtain User Support, Training, News (RSS), and Events Calendar), "Documentation" (with links for All Manuals and Guides, AQS Users Guide, AQS Code Lists, Data Dictionary, and Data Coding Manual), "Additional Resources" (with links for Monitoring and Policy Memos, Memos About Reporting Pollutants, Quality Assurance & Audit Memos, Archive Data, and Related Resource Links), and "Obtaining AQS Data" (with links for How to Obtain AQS Data, API, About the AQS Data Mart, Pre-Generated Data Files, and AirData). A "Contact Us" link is at the bottom.

AQS Login Instructions Video

AQS Login & Screening Group

LOGIN USING YOUR:

- Username = ID obtained with registration
- Password = Your selected password
- Database= "AQSPROD"

AQS LOGON FORM

Username: ZAG

Password: *****

Database: aqsprod

Connect Exit

The Air Quality System (AQS) is a United States Environmental Protection Agency (EPA) system which may be accessed and used for authorized purposes only. Use of this system may subject violators to criminal, civil, and/or administrative penalties. All information entered into this system may be monitored, recorded, read, copied, and disclosed for official purposes, including law enforcement. Access or use of this system for unauthorized or unauthorized purposes, constitutes consent to these terms. A user who accesses this system, either directly or indirectly, represents and warrants that they are an authorized user of this system and that their use of this system is for authorized purposes. A user who accesses this system, either directly or indirectly, represents and warrants that they are an authorized user of this system and that their use of this system is for authorized purposes.

Select Session Access (Read Only)

Read Only User

Screening Group Access

User Support Screening Group Access

Logged into AQS

Now choose Access Level

Select a Screening Group

Select a Screening Group for this session:

Name	Type
HO-CHUNK NATION OF WISCONSIN	TRIBE
HO-CHUNK NATION OF WI	TRIBE

OK

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	✗	✓

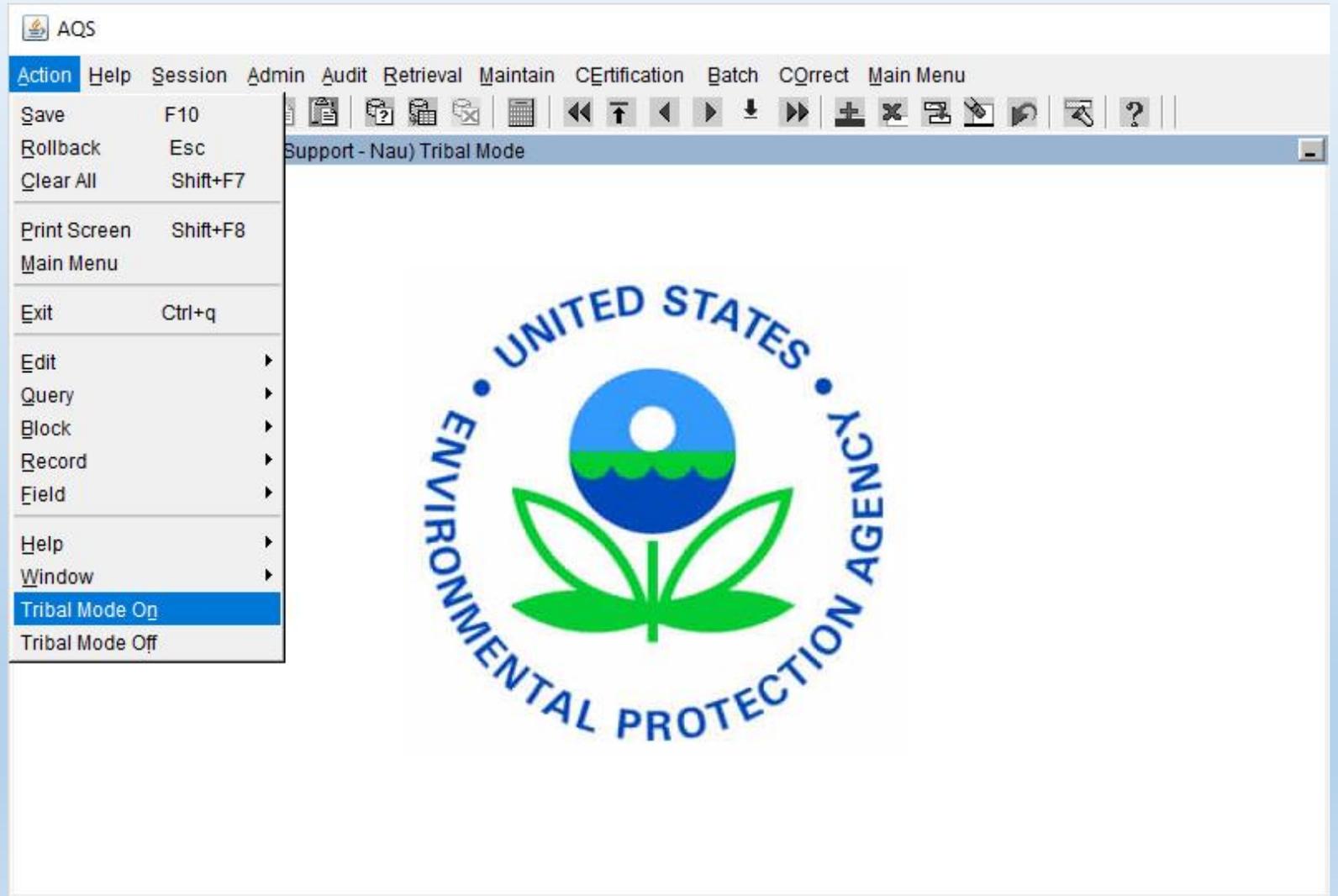
- Signing on With a Screening Group Allows You Into New Areas of the Application
- Using Maintenance in a Screening Group → only access monitors owned by that Screening Group

Screening Groups

- Monitors owned by a screening group (ex. your Tribe)
- Members of screening groups can modify data for monitors owned by that screening group (with proper role)
- Monitors can only belong to one screening group
- Users can belong to multiple screening groups and have multiple roles within a screening group

AQS Main Menu (Tribal Mode)

- Once logged into AQS, the main menu will appear
- Be sure to select Tribal Mode
- Click on “**Action**” then “**Tribal Mode On**”
- Allows federally recognized Tribal Codes to be visible



Account management

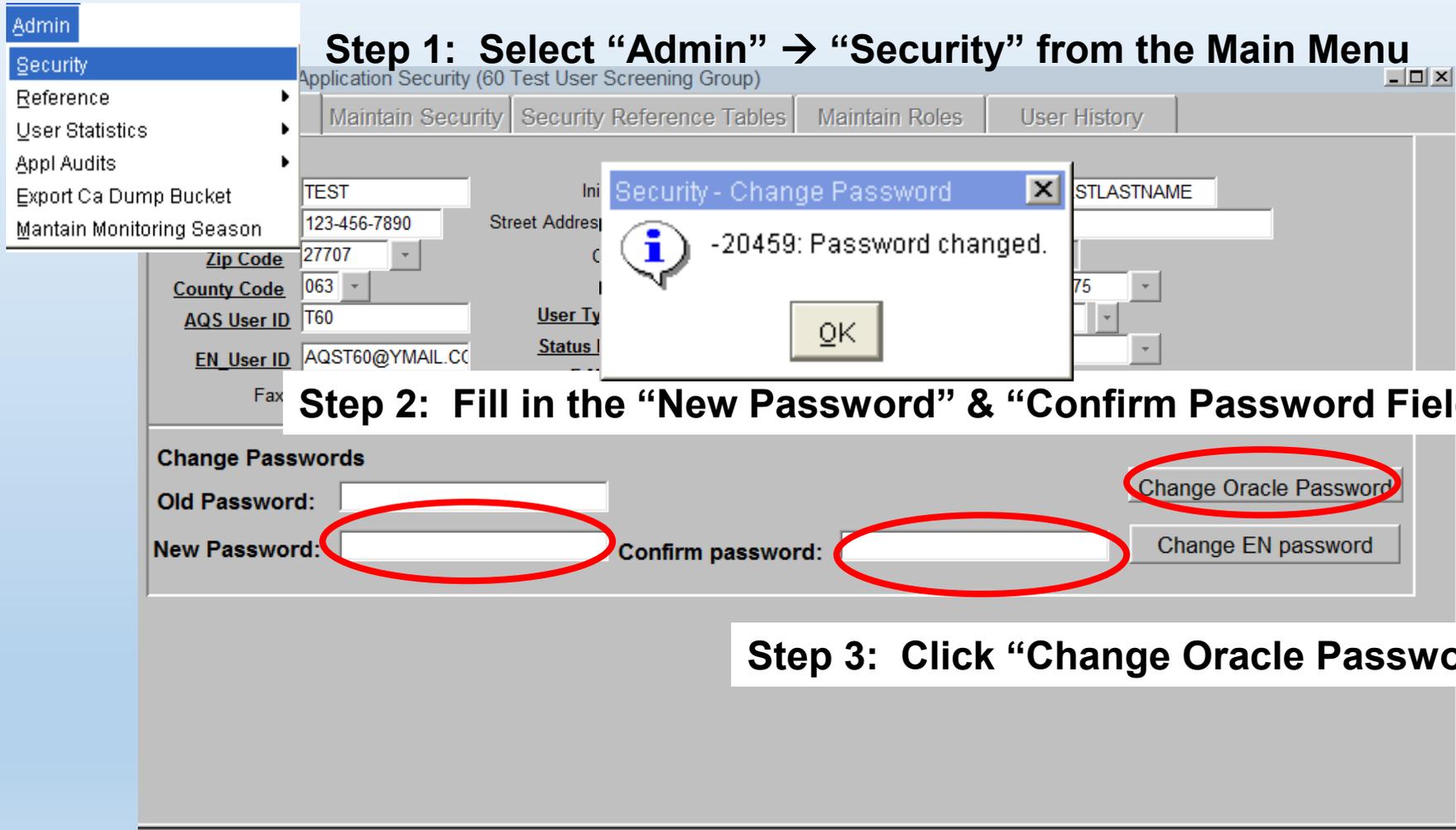
- Change password every 60 days (EPA Policy)
 - You receive an automated reminder
 - You can change your passwords in AQS at any time
- After 180 days of inactivity, your user account is locked
 - You receive an automated reminder
 - If your account is locked, you must call the EPA Enterprise IT Service Desk at EISD@epa.gov to have it unlocked

Password Rules

- Passwords shall be at least twelve (12) non-blank characters long.
- At least 50% of the characters shall be changed when new passwords are created.
- Passwords may not be reused for 24 generations.
- See Password Security Policies (Rules) at:
 - <https://www.epa.gov/aqs/epa-it-password-security-policies>
- Password or account problems? Contact EPA Enterprise IT Service Desk at EISD@epa.gov

Where to Change Your AQS Password

Step 1: Select "Admin" → "Security" from the Main Menu



Step 2: Fill in the "New Password" & "Confirm Password Fields"

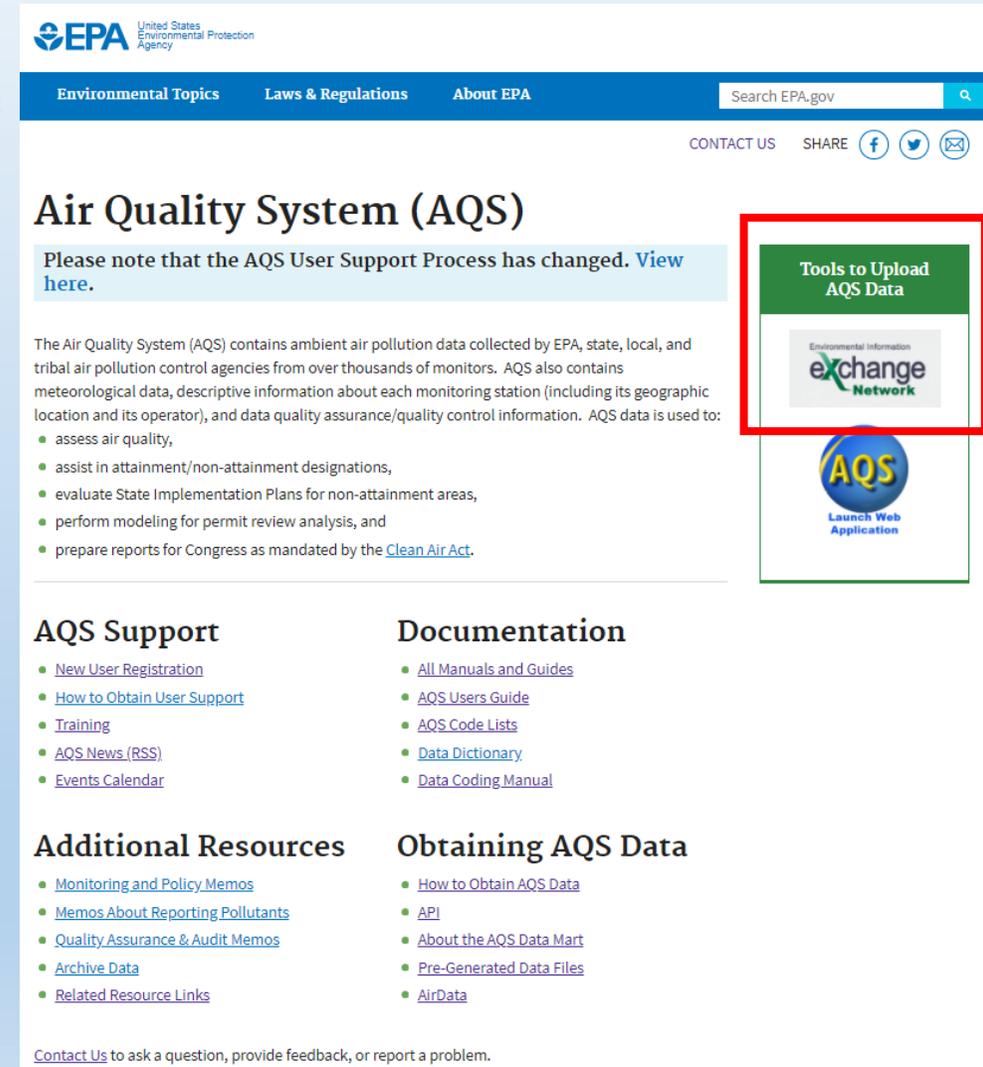
Step 3: Click "Change Oracle Password"

The screenshot displays the 'Security - Change Password' dialog box with the message '-20459: Password changed.' and an 'OK' button. The background interface includes a 'Change Passwords' section with the following fields and buttons:

- Old Password:
- New Password:
- Confirm password:
- Change Oracle Password (button)
- Change EN password (button)

What is Exchange Network Service Center (ENSC)?

- ENSC is a web-based tool used to send, get, and download Air Quality data & information
- You will need access to ENSC to upload data to AQS



EPA United States Environmental Protection Agency

Environmental Topics Laws & Regulations About EPA Search EPA.gov

CONTACT US SHARE   

Air Quality System (AQS)

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Tools to Upload AQS Data

Environmental Information
exchange Network

AQS
Launch Web Application

AQS Support

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- [AirData](#)

[Contact Us](#) to ask a question, provide feedback, or report a problem.

How to Gain Access to Exchange Network Service Center (ENSC)

- Go to the AQS database website:
<https://www.epa.gov/aqs>
- Click on “Environmental Information Exchange Network” button
- Click “Request an Account” to gain production username and password

The screenshot shows the EPA website's 'Air Quality System (AQS)' page. At the top right, there is a search bar and navigation links for 'Environmental Topics', 'Laws & Regulations', and 'About EPA'. Below the header, a blue banner reads 'Air Quality System (AQS)'. A light blue box contains a notice: 'Please note that the AQS User Support Process has changed. View here.' To the right, a green box titled 'Tools to Upload AQS Data' contains a button for 'Environmental Information Exchange Network', which is highlighted with a red box. A red arrow points from this button to a browser window. The browser window shows the 'Environmental Exchange Network | Services Center' page. The page has a header with the 'exchange Network' logo and 'SERVICES CENTER'. Below the header, there is a 'Login' section with fields for 'Username:' (containing 'coats.robert@epa.gov'), 'Password:', and 'Domain:' (set to 'default'). A 'Login' button is present, along with a 'Forgot Username or Password' link. A 'Request an Account' link is also visible. At the bottom, there is a 'Warning Notice' section with a disclaimer about unauthorized access.

How to Gain Access to Exchange Network Service Center (ENSC)

- Request an Exchange Network Account Form
- First request a Test Account
- Complete Test Transaction before you can request a Production account



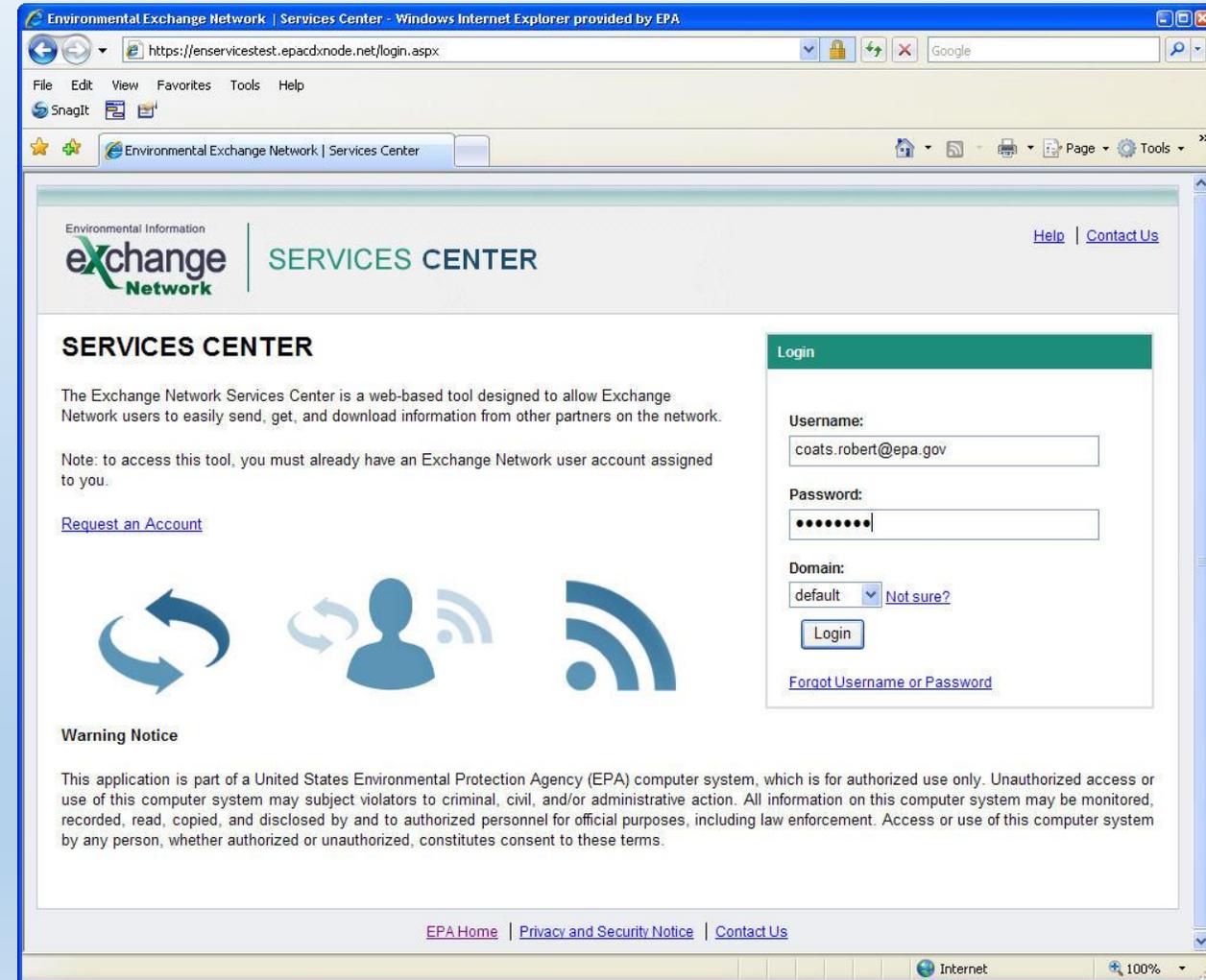
The screenshot shows the 'Request an Exchange Network Account' form on the Environmental Information Exchange Network Services Center website. The form includes the following fields and options:

- Account Type:** Radio buttons for 'Test Account (required before requesting a Production Account)' and 'Production Account'. The 'Production Account' option is selected.
- Transaction ID:** A text input field labeled 'Enter Transaction ID of successful Test transaction :'. A red arrow points to this field from the text on the left.
- Name:** Text input field.
- Organization:** Text input field.
- Work Address:** Text input field.
- City:** Text input field.
- State:** Dropdown menu with 'Alabama' selected.
- Zip Code:** Text input field.
- Email Address:** Text input field.
- Supervisor's Name:** Text input field.
- Supervisor's Email Address:** Text input field.
- Type of Account:** Dropdown menu with 'User' selected.
- DataFlow:** Dropdown menu with 'AQS' selected.

At the bottom of the form, there are two buttons: 'Cancel' and 'Request Account'.

Exchange Network Service Center (ENSC) Login

- Username = Your email address
- Password: Your selected password



ENSC Login Instructions Video

Poll Question 4



- Do you currently have AQS access credentials?
 - Yes
 - No
 - Not Sure

Poll Question 5



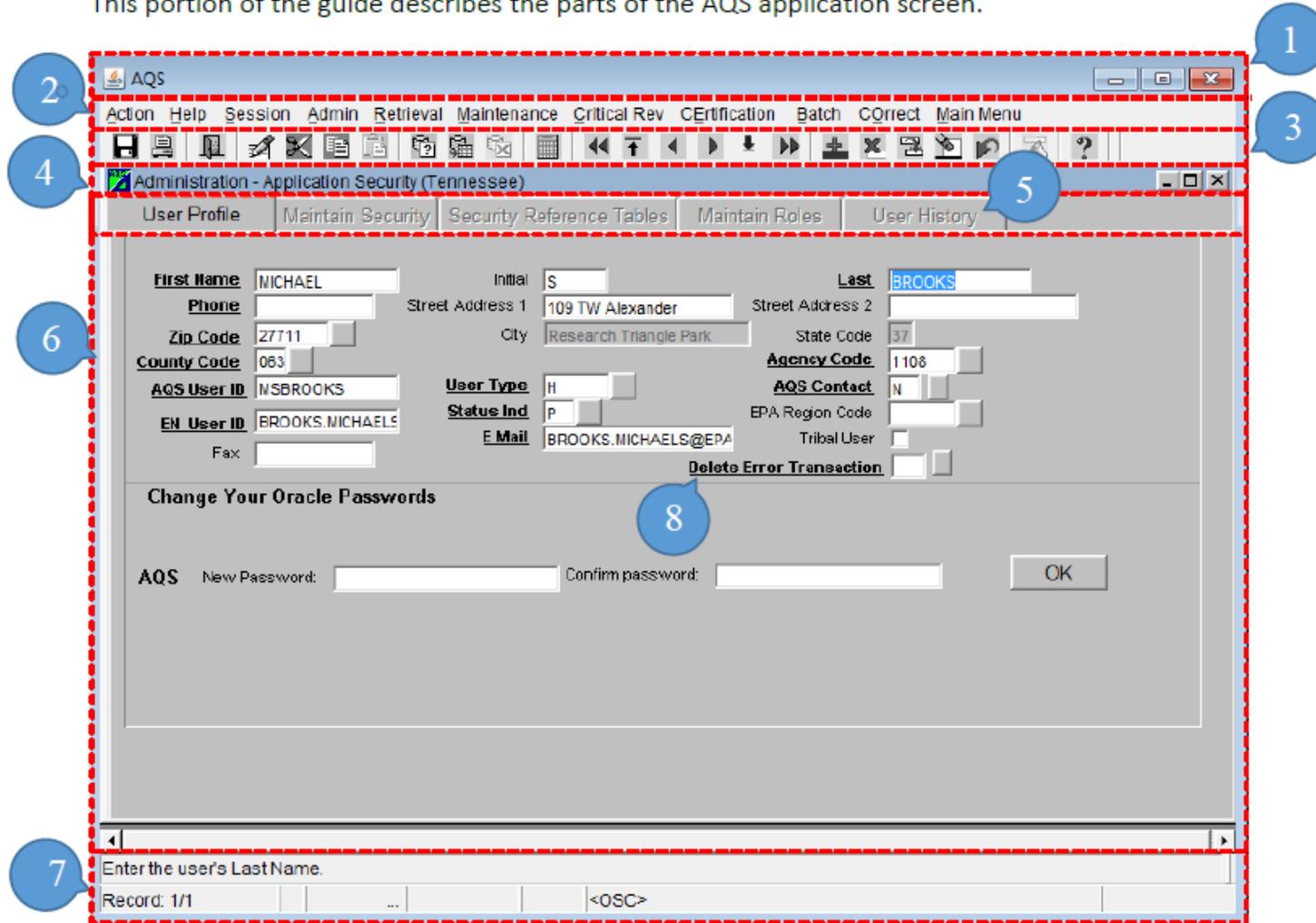
- Do you plan to gain AQS access credentials?
 - Yes
 - No
 - Not Sure

AQS User Interface Parts

(aka “Oracle Forms and Reports”)

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

This portion of the guide describes the parts of the AQS application screen.

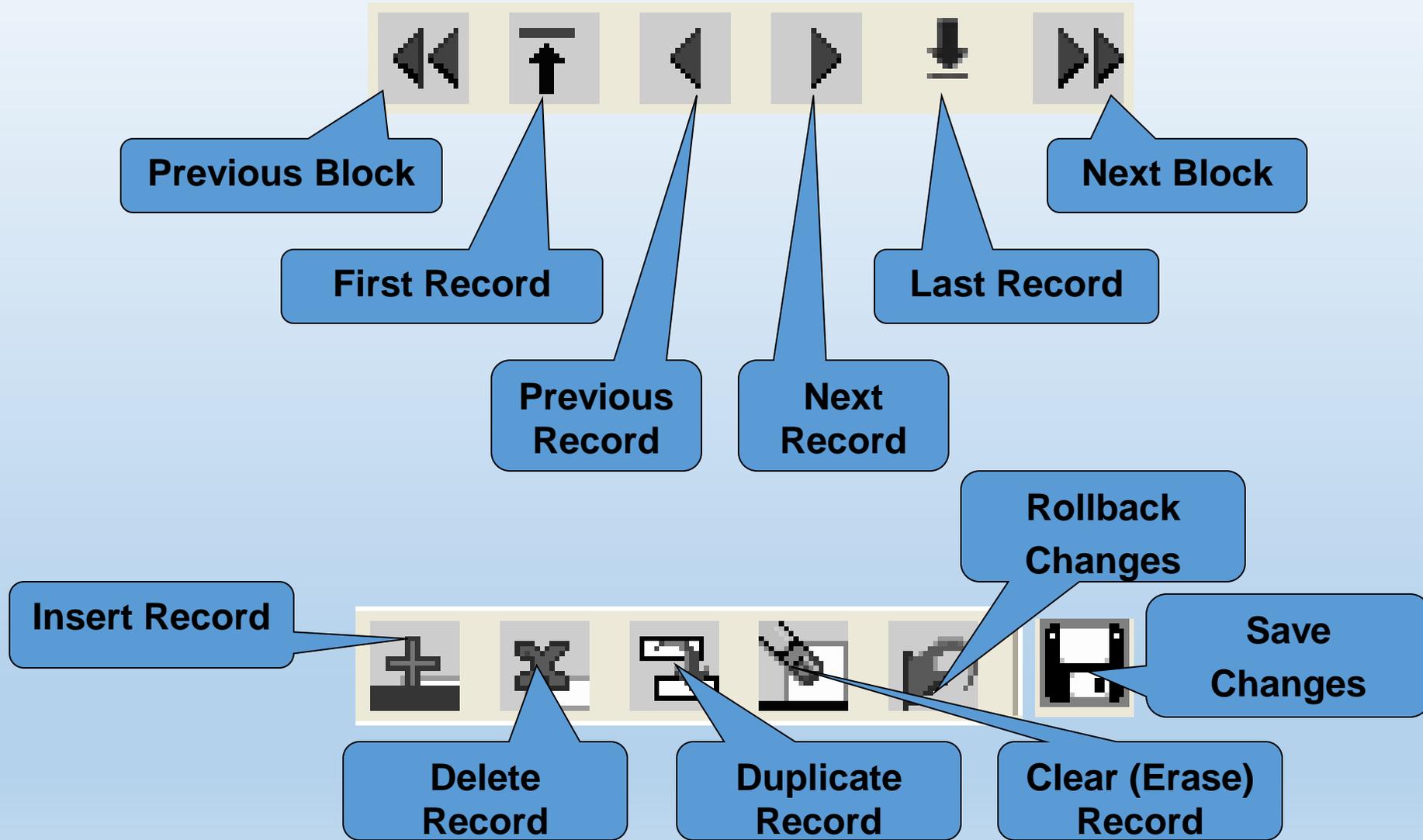


1. AQS Title Bar
2. Menu Bar
3. Icons
4. Form Title Bar
5. Tabs
6. Form Area
7. Status Bar
8. Required **Field**

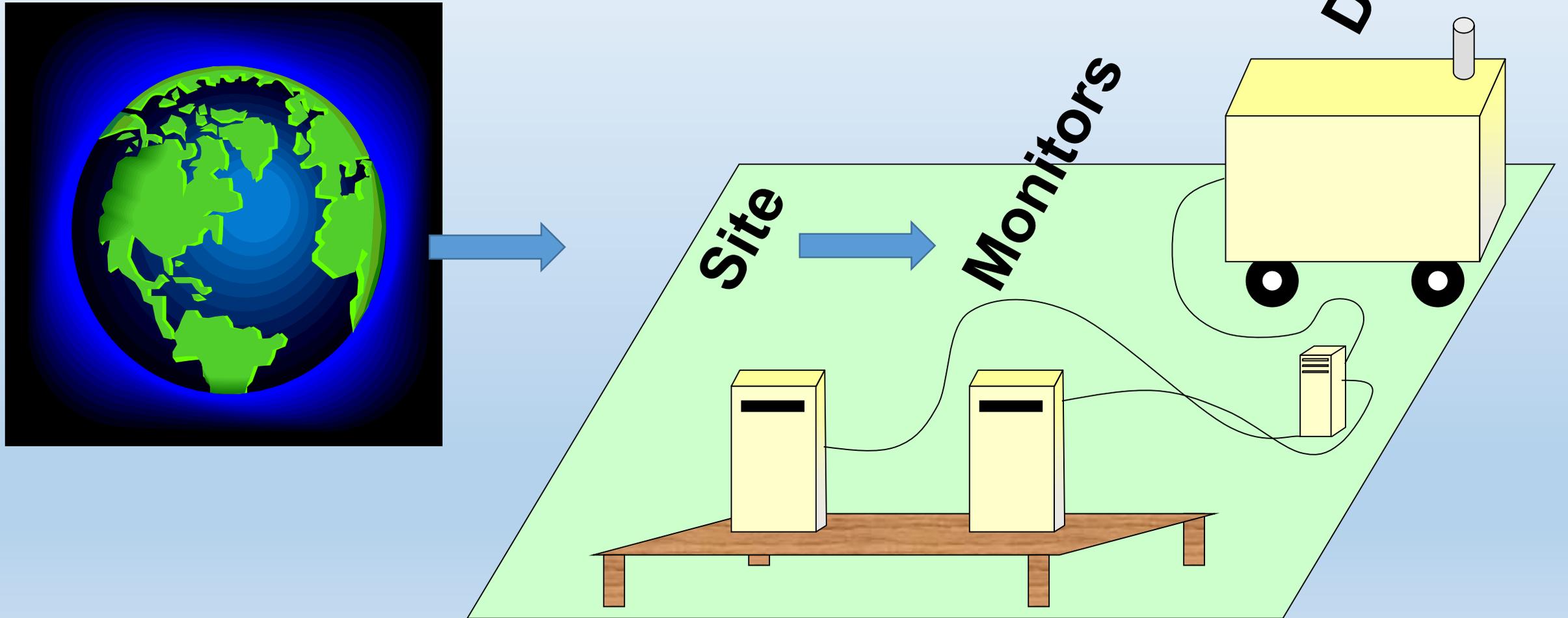
a. Required fields are indicated by the bolding of the field name throughout AQS.

AQS Screen Layout

Navigation Icons



Types of Core Data in AQS



Types of Data in AQS (Site and Monitor)

- Site Data

- Physical Location (Latitude and longitude, Street Address)
- Site Characteristics (Nearby Streets, primary Monitor)
- Site Identifier (State – County –Site ID or Tribal Code – Site ID)

Ho-Chunk Nation of WI AQS Site ID: 55-081-2001 or TT-439-2001

- Monitor data

- How is a given Pollutant measured (When Sampling Began, networks, Agencies, Objectives, Obstructions and/or Roads nearby, Collocation, Sampling Frequency)
- Identified by AQS Site ID + Parameter Code + POC



Types of Data in AQS (Detail / Refer.)

- Sample Measurement Obtained by the Instrument
 - User Reports Individual Sample data, Notes or Flags about Samples, and Audit Data.
 - AQS Computes Multi Hour Averages and Daily, Site, Quarterly, Annual and Site Annual Summaries
- Sample Data Identified by Monitor ID plus
 - When the Sample Was Taken (Date & Time) + Status (Individual Sample data)
 - When the Sample Was Taken (Date & Time) (Audit Data)
 - Time Period Summarized + Sample Duration + Exceptional Data Type + Pollutant Standard (Summary Data)
- Reference Data
 - Codes used to identify things like States, Counties, Sample Duration
 - Use Standard Codes (FIPS) when available
- Quality Assurance Data
 - Quality Checks of the Monitoring Program

Table B. Validity Flags

* samples marked with any of these flags will be analyzed and reported with flags noted

Flag	Description
2	Operational Deviation
3	Field Issue
4	Lab Issue
5	Outlier
6	QAPP Issue
FX	Filter Integrity Issue
IA	African Dust
IB	Asian Dust
IC	Chem. Spills and Industrial Accidents
ID	Cleanup After a Major Disaster

AQS Codes

- Reporting agencies submit AQ data as **formatted coded transactions** by first uploading the transaction file(s) to EPA's Environmental Information Exchange Network

EPA AQS Code List website: <https://www.epa.gov/aqs/aqs-code-list>

AQS Data Coding Manual: https://www.epa.gov/sites/production/files/2018-02/documents/user_data_coding_manual_feb_2018_0.pdf

- Many types of coded transactions are used to provide site, monitor, and data information to the AQS database
- Coded transaction files loaded to ENSC are then available for upload to AQS
- Example (Pipe-delimited Transaction Format)

```
RD|I|01|001|9999|44201|1|1|007|056|20060610|13:00|0.050|||||||
```

Overview of AQS Data Transaction Formats

Two (2) Types Supported

- “Pipe-delimited” format “|”
 - One format for each data input type supported through the system
 - “Data Input Formats for the Re-engineered AQS” found at <https://aqs.epa.gov/aqsweb/documents/TransactionFormats.html>
- XML format

AQS XML Schema definition can be found at <http://www.exchangenetwork.net/data-exchange/aqs/>

Example Data to Compare the Two formats

- AQS Site ID: 01-001-9999
- Pollutant Measured: Ozone
- POC (assigned as part of the monitor ID): 1
- Does this value already exist in the system? No
- How long did it take to form sample (the duration): hour
- What kind of instrument was used? Dasibi 1008-AH
- When was the sample collected? June 10, 2006
- What time did sample begin (local standard time): 1:00 PM
- Sample Concentration: 0.050 parts per million
- Other qualifiers that you want to apply to data? No
- Would you like to specify an alternate Minimum Detection Limit for this sampler? No
- Would you like to specify an uncertainty value with this sample? No

Pipe-Delimited Format

vs

```
RD|I|01|001|9999|44201|1|1|007|056|20060610|13:00|0.050|||||
```

XML Format

```
<ActionRawDataInsert>
  <SiteIdentifierDetails>
    <StateCode>01</StateCode>
    <CountyCode>001</CountyCode>
    <SiteIdentifier>9999</SiteIdentifier>
  </SiteIdentifierDetails>
  <MonitorIdentifierDetails>
    <ParameterCode>44201</ParameterCode>
    <ParameterOccurrenceCode>1</ParameterOccurrenceCode>
  </MonitorIdentifierDetails>
  <TransactionProtocolDetails>
    <DurationCode>1</DurationCode>
    <MethodCode>056</MethodCode>
    <UnitCode>007</UnitCode>
  </TransactionProtocolDetails>
  <TransactionRDInsertDetails>
    <ObservationDate>20060610</ObservationDate>
    <ObservationStartTime>13:00</ObservationStartTime>
    <RawValueInsertDetails>
      <SampleValue>0.050</SampleValue>
    </RawValueInsertDetails>
  </TransactionRDInsertDetails>
</ActionRawDataInsert>
```

Pipe Delimited vs. XML Format

- As you can see, Pipe-Delimited is just ONE single line format for each data transaction type
 - Ex. Raw Data (RD) transaction type
- As you can see, XML looks like HTML, but with some changes:
 - The HTML standard defines a fixed set of “tags” that define the data content and formatting.
 - XML allows you to create your own tags, with the meanings that you define.
- XML Tradeoffs:
 - XML files are “self describing”
 - XML files are bigger (100 X bigger, but compressible.)

Poll Question 6



- What type of data transaction format do you best understand?
 - Pipe-Delimited
 - XML
 - Both
 - Neither

Site Identification Code

- Contact your AQS Regional Representative to notify of your Site ID request (Provide your Tribal Code)
- Site ID is a numeric (4-digit) identifier (ID) that uniquely identifies each air monitoring site within a county or tribal area
- There is no requirement that site IDs be assigned continuously or in any particular order.
- Feel free to allocate site numbers in any way you chose as long as there is no duplication within a county and tribal area.
- For **Tribal Sites**, the site ID must be different from any other site ID already existing for that combination of state and county or tribal code.

AQS Site ID & Tribal Code

The screenshot displays the AQS software interface for maintaining site data. The main window is titled "Maintain Site (HO-CHUNK NATION OF WISCONSIN) Tribal Mode". The "Site Identification" section is highlighted with a red box and contains the following fields:

- Tribal Code: 439 (Ho-Chunk Nation of Wisconsin)
- State Code: 55 (Wisconsin)
- County Code: 081 (Monroe)
- Site Id: 0001 (circled in red)
- Status Ind: F

The "User Coordinates" section includes:

- Horizontal Datum: WGS84
- Latitude: 44.020855
- Longitude: -90.40164
- UTM Zone, UTM Easting, and UTM Northing fields are empty.

The "Standard Coordinates" section includes:

- Datum: NAD83
- Latitude: 44.020855

The "Monitor / Geographic Criteria" section is also highlighted with a red box and contains a table with the following columns: Tribal Code, State Code, County Code, Site Id, City Code, AQCR Code, UAR Code, CBSA Code, CSA Code, and EPA Region Code. The table is currently empty, and a list of Site Ids is displayed below it:

Site Id
0001
0002
0003
0004
1001
1002
1003
1004
1005

The "Street Address" field is populated with "10750 County Highway N". The "Land Use Type" is "RESIDENTIAL" and the "Location Setting" is "RURAL". The "City Code" is "80075" (Tomah). The "AQCR Code" is "128" (SOUTHEAST MINNESOTA-LA CROSSE). The "Site Established Date" is "20200101" and the "Time Zone Name" is "CENTRAL". The "Owning Agency" is "439" (Ho-Chunk Nation of Wisconsin).

At the bottom of the interface, there are buttons for "Check", "Monitor Network", "Find", "OK", "Cancel", and "Generate Report".

Parameter Codes

- The code assigned to the parameter to be measured by the monitor
- Parameters may be pollutants or non-pollutants
 - Example: 88101 – parameter code for PM2.5- Local Conditions
 - Example: 61101 – parameter code for Wind Speed - Scalar
- Alphanumeric: 5-digit code
- Mandatory
- Key Field

Parameter Codes

The screenshot displays the AQS software interface for maintaining monitors. The main window is titled "Maintain - Monitors (Tribal Air Monitoring Support - Nau) Tribal Mode". The "Parameter Code" dropdown menu is open, showing a list of parameter codes and their descriptions. The code "88101" is selected, corresponding to "PM2.5 - Local Conditions".

The background form includes the following fields:

- Tribal Code: 439
- State Code: 55
- County Code: [Empty]
- Site Id: 2001
- Parameter Code: 88101
- POC: 1
- Status Ind: [Empty]

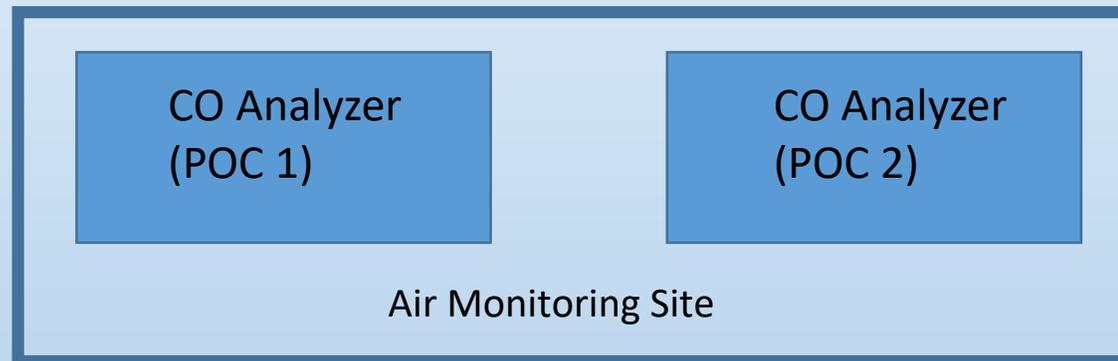
The dropdown menu contains the following data:

Parameter_Code	Parameter_Desc
87200	Particle Number, > 200 nm
88101	PM2.5 - Local Conditions
88102	Antimony PM2.5 LC
88103	Arsenic PM2.5 LC
88104	Aluminum PM2.5 LC
88105	Beryllium PM2.5 LC
88107	Barium PM2.5 LC
88109	Bromine PM2.5 LC
88110	Cadmium PM2.5 LC

Parameter Occurrence Codes

- An identifier used to distinguish between multiple monitors at the same site that are measuring the same parameter.

For example, the first monitor established to measure CO at a site could have a POC of 1 (primary). If an additional monitor were established at the same site to measure CO, that monitor could have a POC of 2 (collocated).



However, if a new instrument is installed to replace the original instrument used as the first monitor, that could be considered the same monitor and it would still have a POC of 1.

- Numeric 2-digit ID
- Mandatory
- Key Field

Primary Occurrence Code

Action Help Session Admin Audit Retrieval Maintain Certification Batch Correct Main Menu

Maintain - Monitors (Tribal Air Monitoring Support - Nau) Tribal Mode

Tribal Code	State Code	County Code	Site Id	Parameter Code	POC	Status Ind
780	35	045	1233	85101	1	F

Project Class [] Dominant Source []
Meas Scale [] Open Path Num []
Probe Location [] Probe Height [] Probe Hor Dist []
Probe Vert Dist [] Surrogate Ind [] Unrest Air Flow []
Samp Res Time [] Last Samp Date [] Last Post Date []
Close Date [] Monitoring Agency (Owner) []
Screening Group 171 Tribal Air Monitoring Support - NAU

	<u>Data Outside of Sample Periods</u>	<u>Data After Close Date</u>
Raw Data	NO	NO
QA Data	NO	NO
Blanks	NO	NO

Find QA Data Check Completeness Duplicate Monitor

Monitor Basic
Sample Periods
Type Assign.
Network Affiliations
Agency Roles
Objectives
Req Frequencies
QA Collocation
Methods
Exclusions
Pollutant Area
Tangent Road
Probe Obs.
Reg Compliances
Protocols
Channels
Comments

AQS Method Codes

Basic AQS Codes

- Identifies a particular method for collecting and analyzing samples of the monitor's parameter.
 - Ex. Method Code 098
 - R&P Model 2000 Sampler (Gravimetric – PM Filter Based)
 - Ex. Method code 087
 - Instrumental (Ultraviolet Adsorption – Ozone Analyzer)
- Alphanumeric 3-digit code
- Mandatory

Method Codes

Action Help Session Admin Audit Retrieval Maintain Certification Batch Correct Main Menu

Maintain - Monitors (Tribal Air Monitoring Support - Nau) Tribal Mode

Monitor: TT-780-1233-44201-1

Protocols

MP Id	Parameter Code	Method Code	Unit	Duration Code	Coll Freq Code	Comp Type	Alt Mdl
	85101						

Find: %098

Methodology C...	Sample Coll Desc	Sample Anal Desc
064	HI-VOL-SA/GMW-321-B	GRAVIMETRIC
065	HI-VOL-SA/GMW-321-C	GRAVIMETRIC
071	OREGON-DEQ-MED-VOL	GRAVIMETRIC-QUARTZ FL...
073	LO-VOL-DICHOTOMOUS-S...	GRAVIMETRIC
076	INSTRMENTL-ANDRSEN...	BETA-ATTENUATION
079	INSTRUMENTAL-R&P SA2...	TEOM-GRAVIMETRIC
081	INSTRUMENTAL-WEDDIN...	BETA-RAY-ATTENUATION
098	R&P Model 2000 Partisol	GRAVIMETRIC
122	INSTRUMENT MET ONE 4 ...	BETA ATTENUATION
124	BGI Inc. Model PQ100 PM10	Gravimetric
125	BGI Inc. Model PQ200 PM10	Gravimetric
126	R - P Co Partisol Model 2000	Gravimetric

Methods

Find: %087

Method Code		
055	INSTRUMENTAL	ULTRA VIOLET
056	INSTRUMENTAL	ULTRA VIOLET
078	INSTRUMENTAL	ULTRA VIOLET
087	INSTRUMENTAL	ULTRA VIOLET ABSORPTION
091	INSTRUMENTAL	ULTRAVIOLET RADIATION ABSORBTN
103	INSTRUMENTAL	OPEN PATH O3 ANALYZER
105	INSTRUMENTAL	UV PHOTOMETRIC
112	INSTRUMENTAL	ULTRAVIOLET ABSORPTION
134	Instrumental	Ultra Violet Photometry
137	Instrumental	Open Path o3 Analyzer
148	Instrumental	Ultra violet Photometric
160	INSTRUMENTAL	ULTRAVIOLET ABSORPTION
161	INSTRUMENTAL	ULTRAVIOLET ABSORPTION

AQS Reporting Unit Codes

- The dimensional system in which the pollutant concentration or parameter reading is expressed.

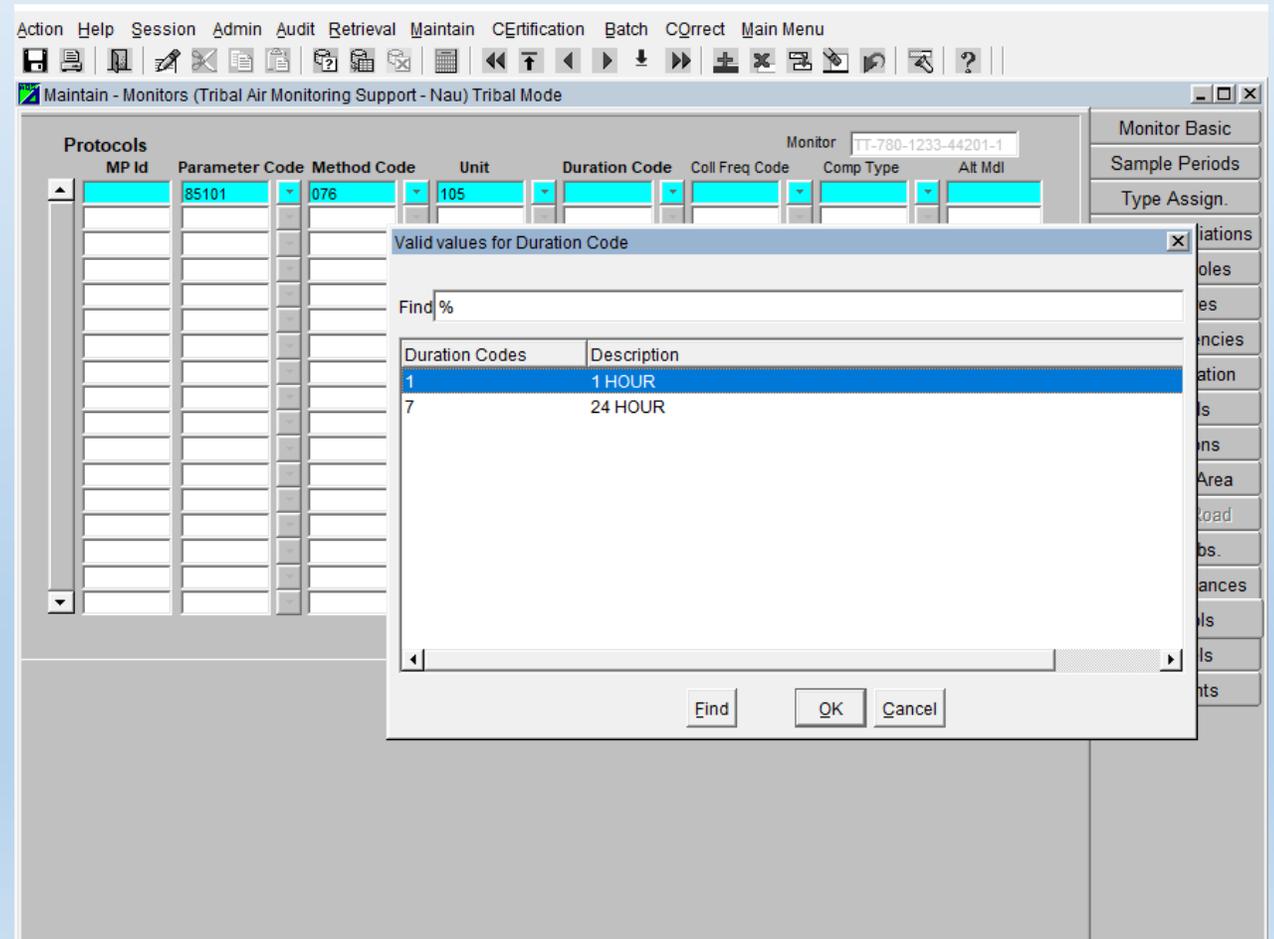
Unit of measure associated with the reported concentration, mass, or flow value.

- PPM, PPB, $\mu\text{g}/\text{m}^3$, LPM, MPH, etc.
- Alphanumeric 3-digit code
- Mandatory

AQS Reporting Durations

Basic AQS Codes

- The period of time during which the sample value was collected
- Alphanumeric 1-character code
- Mandatory



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

Demonstration of AQS Coding (Pipe Delimited format)

- Site: 439-081- 2001

Tribal Code **439** is Ho-Chunk Nation of WI for site ID **2001** in Monroe County (**081**)

RD – Raw Data

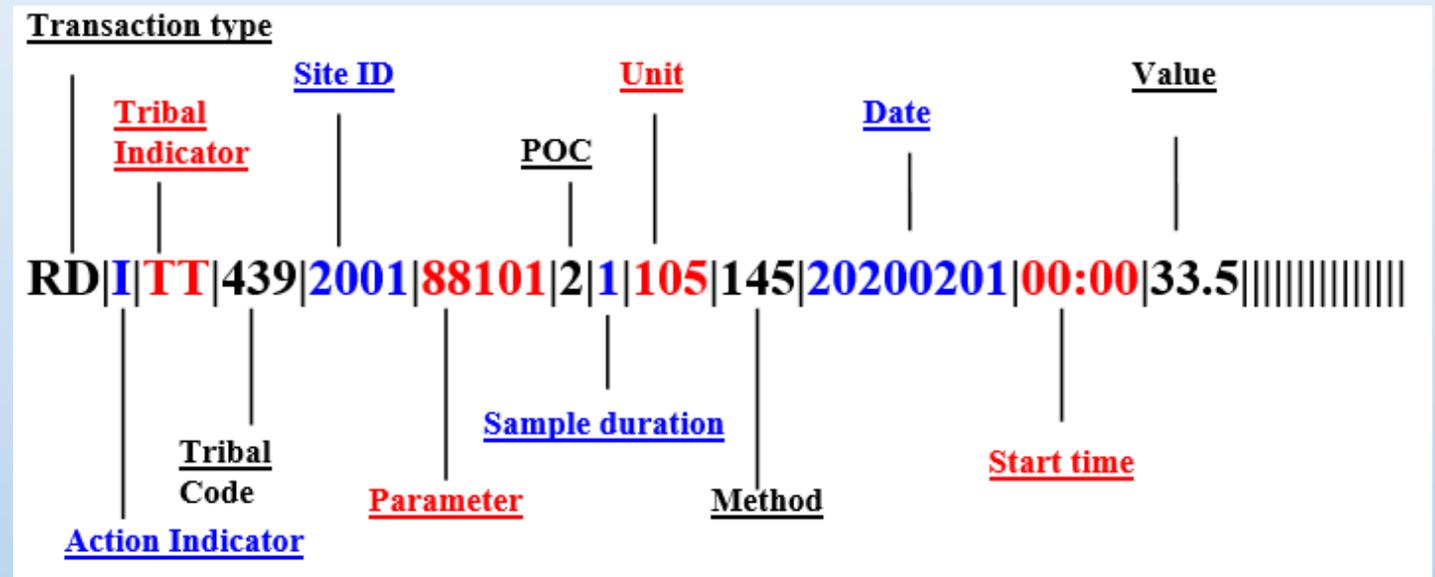
TT – Tribal Indicator

- Monitor: 439-2001-88101-1

Parameter Code **88101** is PM2.5 – LC

- Monitor duplicate: 439-2001-88101-2

POC code is **2** (Collocation)



- Method: 145

Method code **145** is for a R&P Model 2000 PM2.5 Sampler w/VSCC (gravimetric – PM filter based)

- Unit: 105

Unit code **105** is reporting micrograms per cubic meter (LC)

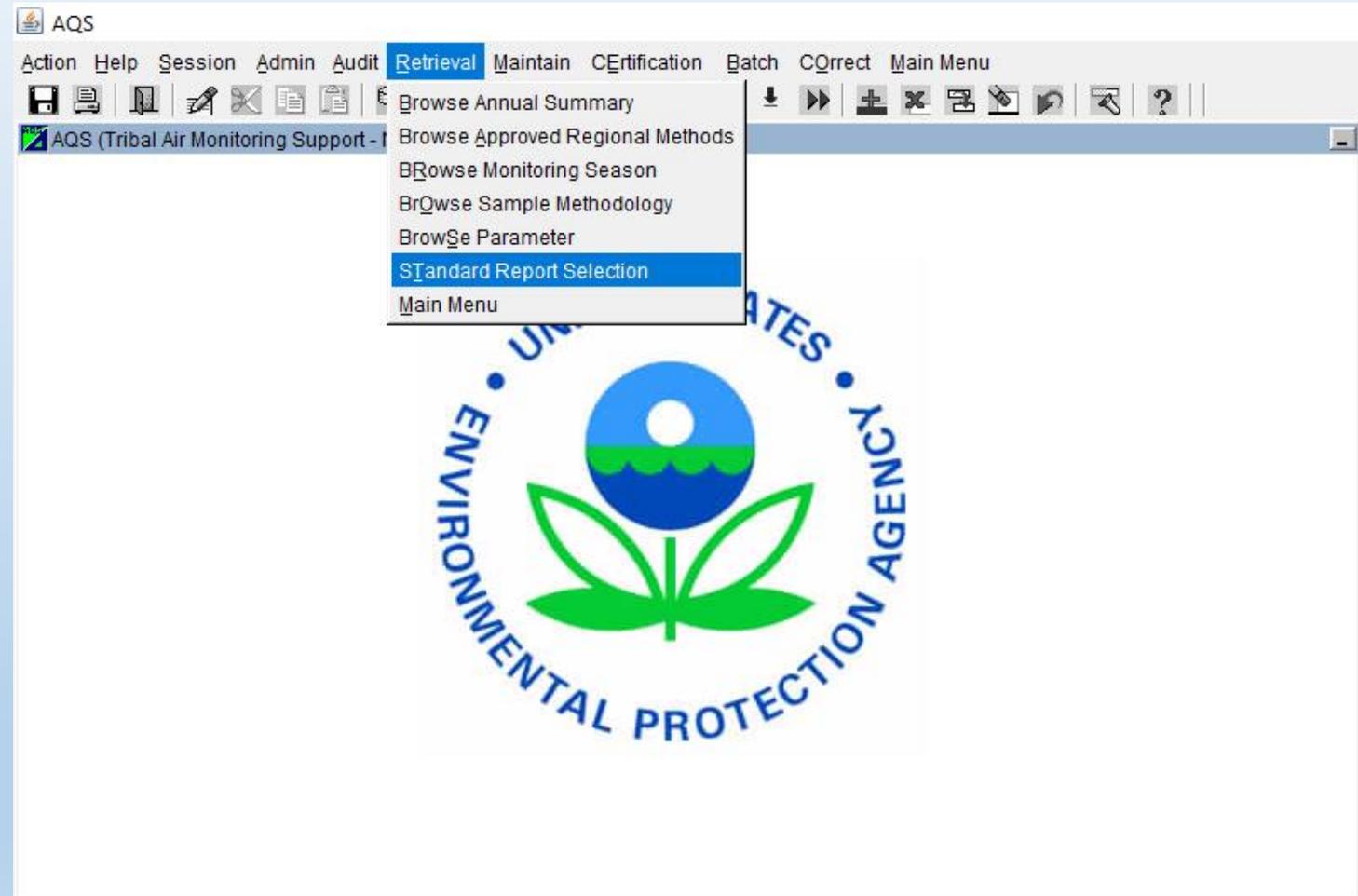
Poll Question 7



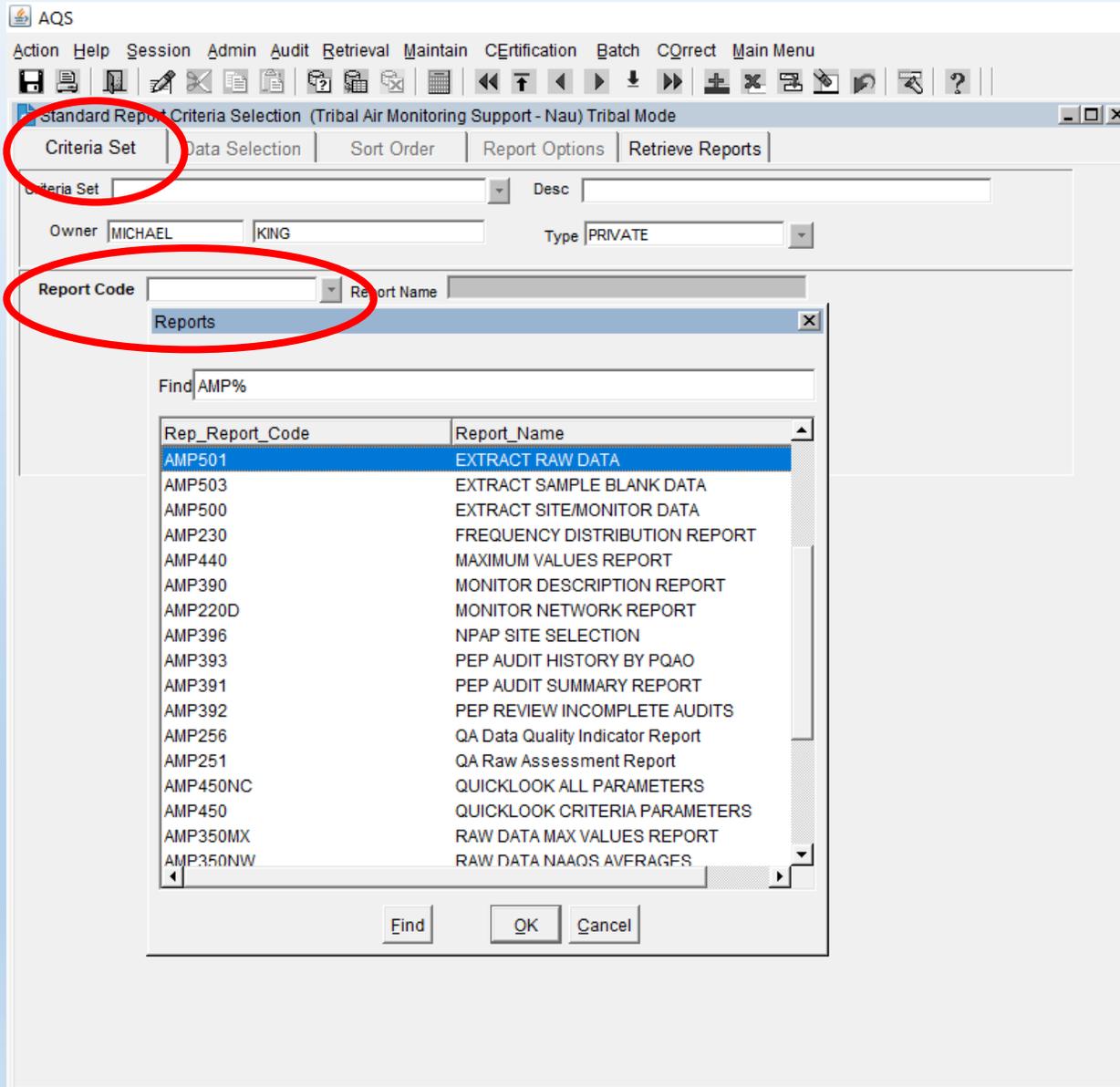
- Do you or any of your program staff currently upload air quality data to AQS?
 - Yes
 - No
 - Not Sure

AQS Raw Data Retrieval (Extract Raw Data)

- Login to AQS (read only or screening group)
- Go to “**Retrieval**” on menu
- Select “**Standard Report Selection**” from dropdown list

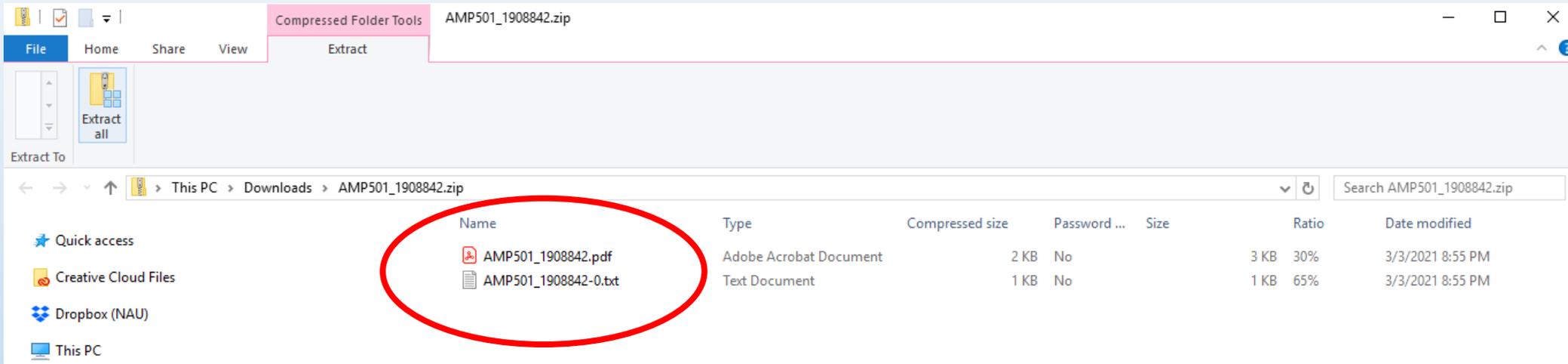


AQS Raw Data Retrieval (Cont'd.)

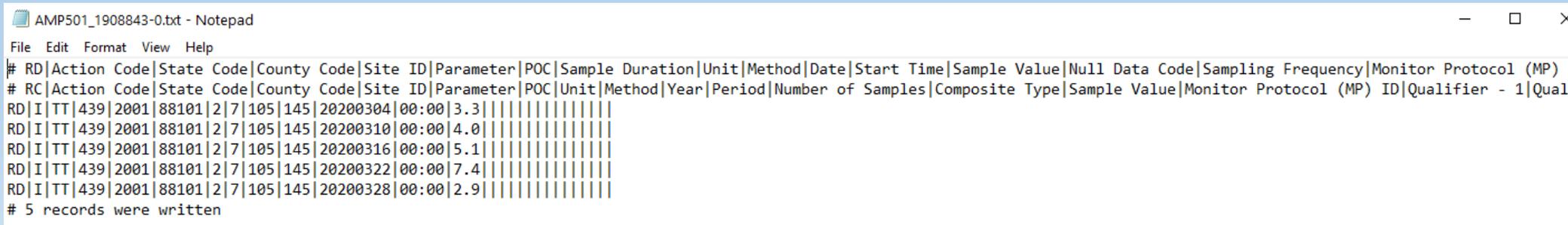


- In the Standard Report Selection form, click on the **Report Code** drop down arrow
- Select **AMP501 Extract Raw Data** report
- By default the output work file will be a text file

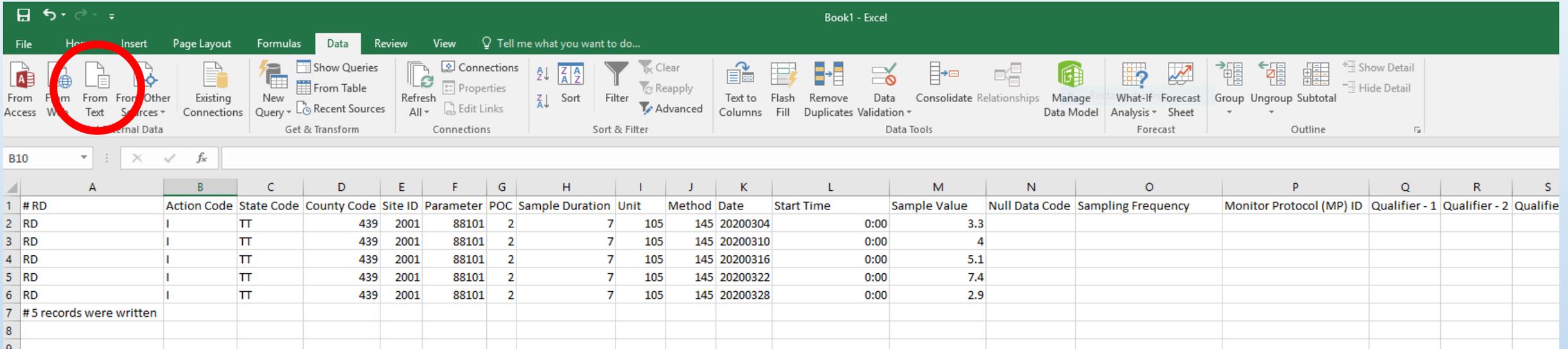
AQS Raw Data Retrieval (Cont'd.)



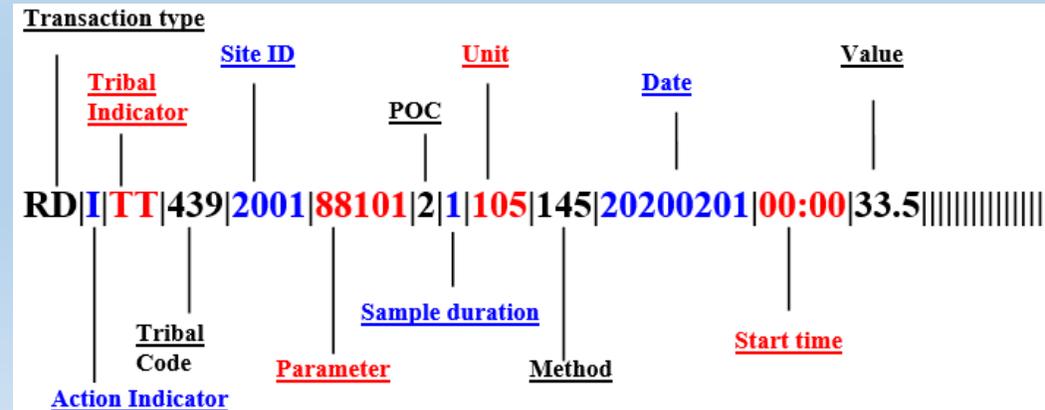
- Text file with your data will be in your downloads file
- Open the text file to view the pipe-delimited data
- The data can then be imported into Excel using Data Text Import Wizard and import using pipe delimiter (|)



AQS Raw Data in Excel



- Text file imported into Excel
- AQS Codes correspond to column headers



Obtaining AQS Data without Logging into AQS

Air quality data is available from several places depending on what you need and your preferred format.

- Air quality data from the AQS system is consolidated at the [AirData](#) website.
- AirData has [pre-generated files of extracted AQS data](#) at the annual, daily, and hourly level. It also has several reports, graphs, and maps that you can generate based on specific selections.
- These are available from the main AirData page. It also has a [API \(REST query interface\)](#) that allows you to query AQS raw data.
- If you need AQI (Air Quality Index) information, you can get it from the daily files on the pre-generated files page, or use the AirData query daily data interface.
- If you need real time data, go to the [\(AirNow Gateway / API page\)](#)

Poll Question 8



- So far what do you see as the biggest challenge in your learning of AQS?
 - Gaining access credentials
 - How to code air quality data
 - How to format data
 - How to retrieve data
 - No challenges so far...

Resources



AQS Manuals and Guides:

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

AQS Training Videos, e-Learning, Webinars and Other Trainings

- <https://aqs.epa.gov/aqsweb/training/Training.html>

NAU ITEP AQS Fast Track Videos

- <https://mediaspace.nau.edu/channel/AQS%2BFast%2BTrack/69472942>

AQS Tribal Q&A Session

- Bi-monthly Q&A for AQS tribal members (Second Wednesday of the month) contact McIntyre.Pamela@epa.gov

Resources



Current AQS User Support Process

- EPA Enterprise IT Service Desk no longer provides AQS support.
Only password resets & registration.
- Users will need to email their Regional AQS contact
 - A. Problem statement with expected results
 - B. Step by step description of what the user did that resulted in issue.
 - C. The actual results received
 - D. Attachments that show the issue, error, and any logs (reports, forms, batch load)

Resources

<https://www.epa.gov/aqs/aqs-user-support>

Join us for Webinar 2 on Mar. 30th

Topics include:

- How to establish a site and monitor in AQS
- How to format and upload data into AQS

Region	States	State Code		AQS Contact(s)	Phone No.	Email
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	Massachusetts	MA	25			
	New Hampshire	NH	33			
	Rhode Island	RI	44			
Vermont	NH	50				
II	New Jersey	NJ	34	Gavin Lau	212-637-3708	lau.gavin@epa.gov
	New York	NY	36			
	Puerto Rico	PR	72			
	Virgin Islands	USVI	78			
III	Delaware	DE	10	Pauline Devose Clinton McCrowey	215-814-2186 215-814-2124	devose.pauline@epa.gov mccrowey.clinton@epa.gov
	Dist. of Columbia	DC	11			
	Maryland	MD	24			
	Pennsylvania	PA	42			
	Virginia	VA	51			
West Virginia	WV	54				
IV	Alabama	AL	01	Darren Palmer Daniel Garver	404-562-9052 404-562-9839	palmer.darren@epa.gov garver.daniel@epa.gov
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	Georgia	GA	13			
	Kentucky	KY	21			
	Mississippi	MS	28			
	North Carolina	NC	37			
	South Carolina	SC	45			
Tennessee	TN	47				
V	Illinois	IL	17	Jacqueline Nwia	312-886-6081	nwia.jacqueline@epa.gov
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	Michigan	MI	26			
	Minnesota	MN	27			
	Ohio	OH	39			
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	North Dakota	ND	38			
	South Dakota	SD	46			
	Utah	UT	49			
Wyoming	WY	56				
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	Hawaii	HI	15			
	Nevada	NV	32			
	American Samoa	AS	60			
Guam	GU	66				
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	Oregon	OR	41			
	Washington	WA	53			



Tribal Air Monitoring



Support Center



Thank you for joining today's webinar!