

EPA's School Monitoring Initiative

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EPA OAQPS



About the Initiative

- On March 31, 2009 EPA announced monitoring of outdoor air at 62 schools in 22 states.
- Measuring the levels of pollutants in the air will help EPA understand whether outdoor air quality at the schools poses any health concerns.
- We are focusing on schools near
 - Large industries
 - In urban areas, where air toxics come from a variety of sources
 - In low-income areas, which are sometimes disproportionately affected by pollution

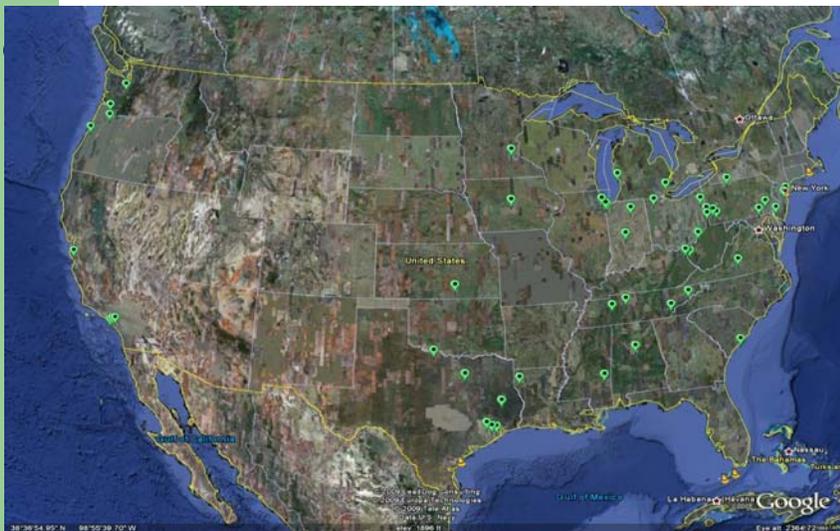


How EPA Selected the Schools

- We used the best data available to EPA scientists about air pollution in the vicinity of schools
- We also considered:
 - Results from a computer modeling analysis,
 - Results from USA Today series,
 - Information from state & local air agencies.



Locations of the 62 Schools



Time Line

•Activity	•Due Date	•Comments
Evaluate the USA Today® Network List	February 2009	List evaluation.
Development of the EPA Network List	February 2009	List of candidate schools developed considering USA Today® analysis, NATA results, TRI data, and information from S/L agencies.
EPA Network List Finalized	March 2009	List vetted through internal and S/L channels.
DQO Process Performed	March 2009	Monitoring. Analysis staff convene to develop DQOs.
QAPP Development	March 2009	Input taken and incorporated into official document.
Monitoring Plan Development	March 2009	Monitoring Plan vetted through official channels.
Lab Services Procured	March 2009	UATMP services in place for receiving samples.
Sampler siting/testing	April 2009	Establishment of sites and preliminary testing of samplers.
QAPP Finalized	April 2009	QAPP finalized and submitted to S/L agencies.
Field Training	April – May 2009	Field and laboratory training activities and certification.
Sampling Begins	April- May 2009	Sampler testing completed and media shipped to monitoring locations.
Laboratory Analysis Begins	April-May 2009	Samples received and analysis begins.
Sampling Ends	July – August 2009	If 100% data capture is obtained, samplers are shut down.
Data Analysis Phase Begins	July 2009	Data loaded into AQS database and data are accessible to analytical team.



Quality System

- EPA developed the QA System which includes:
 - Category II QAPP
 - Monitoring Plan
 - Laboratory TSAs for ERG and its subcontractor
 - Site Reviews by EPA Regional Staff
 - Proficiency Testing to ERG and subcontractor
 - Final QA Report



Compounds of Interest

Compound	Reporting Units	Precision (CV) ¹	Bias ²	Representativeness	Comparability/ Method Selection	Completeness	Minimum Detection Limits ³
Arsenic	ug/m3	20%	25%	Micro, Middle, and/or Neighborhood Scale	ICP-MS/IO-3.5	10 samples	9.2 E-06
Cobalt	ug/m3	20%	25%	Micro, Middle, and/or Neighborhood Scale	ICP-MS/IO-3.5	10 samples	5.5 E-06
Lead	ug/m3	20%	25%	Micro, Middle, and/or Neighborhood Scale	ICP-MS/IO-3.5	10 samples	5.6 E-05
Manganese	ug/m3	20%	25%	Micro, Middle, and/or Neighborhood Scale	ICP-MS/IO-3.5	10 samples	5.7 E-05
Nickel	ug/m3	20%	25%	Micro, Middle, and/or Neighborhood Scale	ICP-MS/IO-3.5	10 samples	1.3 E-04



Compounds of Interest

Compound	Reporting Units	Precision (CV) ¹	Bias ²	Representativeness	Comparability/ Method Selection	Completeness	Minimum Detection Limits ³
Acrolein	ug/m3	30%	25%	Micro, Middle, and/or Neighborhood Scale	GC-MS/TO-15	10 samples	3.5 E-02
1,3-Butadiene	ug/m3	30%	25%	Micro, Middle, and/or Neighborhood Scale	GC-MS/TO-15	10 samples	6.0 E-03
Benzene	ug/m3	30%	25%	Micro, Middle, and/or Neighborhood Scale	GC-MS/TO-15	10 samples	2.0 E-02



Compounds of Interest

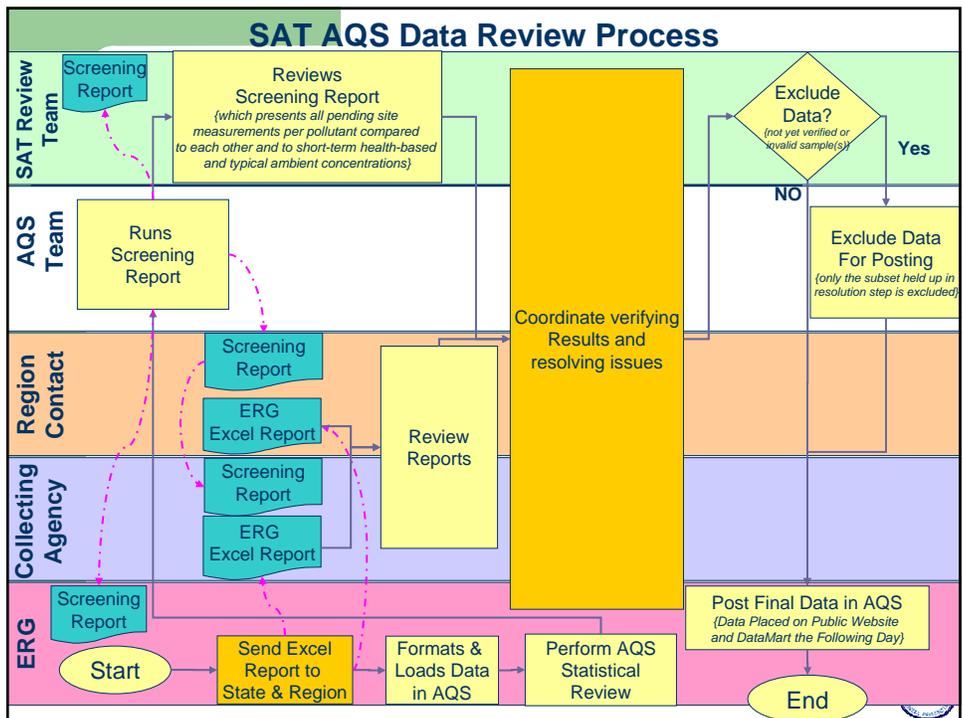
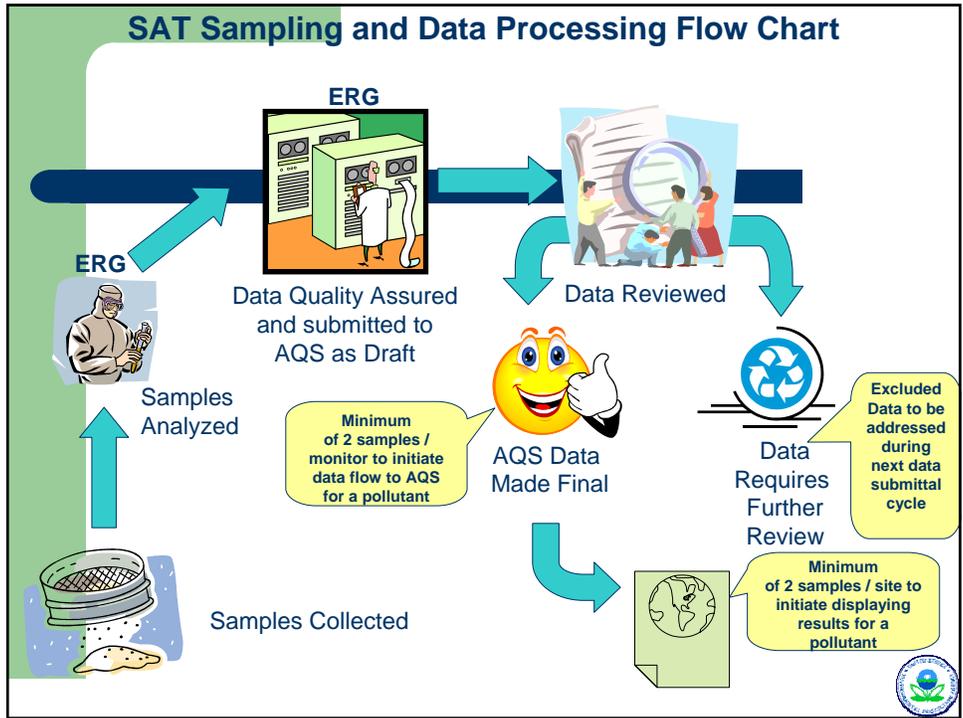
Pollutant Group	Compound	Reporting Units	Precision (CV)	Bias	Representativeness	Comparability/ Method Selection	Completeness	Minimum Detection Limits ^a
Individual Pollutant	4,4'-Methylenediamine	ug/m3	25% ^b	25% ^b	Micro, Middle, and/or Neighborhood Scale	NIOSH 5029	10 samples	0.025
PAH	Benzo (a) pyrene	ug/m3	25% ^b	25% ^b	Micro, Middle, and/or Neighborhood Scale	TO - 13 A	10 samples	6.1 E-05
PAH	Naphthalene	ug/m3	20% ^b	25% ^b	Micro, Middle, and/or Neighborhood Scale	TO - 13 A	10 samples	2.4 E-04
Diisocyanates	2, 4 TDI	ug/m3	25% ^b	25% ^b	Micro, Middle, and/or Neighborhood Scale	OSHA 42	10 samples	0.025
Diisocyanates	MDI	ug/m3	25% ^b	25% ^b	Micro, Middle, and/or Neighborhood Scale	OSHA 42	10 samples	2.23 E-02
Diisocyanates	1,6 HDI	ug/m3	25% ^b	25% ^b	Micro, Middle, and/or Neighborhood Scale	OSHA 42	10 samples	2.5 E-01
Metal	Chromium (VI)	ug/m3	20% ^b	25% ^b	Micro, Middle, and/or Neighborhood Scale	EPA-modified CARB 039	10 samples	4.3 E-06
Carbonyl	Acetaldehyde	ug/m3	25% ^b	25% ^b	Micro, Middle, and/or Neighborhood Scale	TO - 11A	10 samples	9.0 E-03

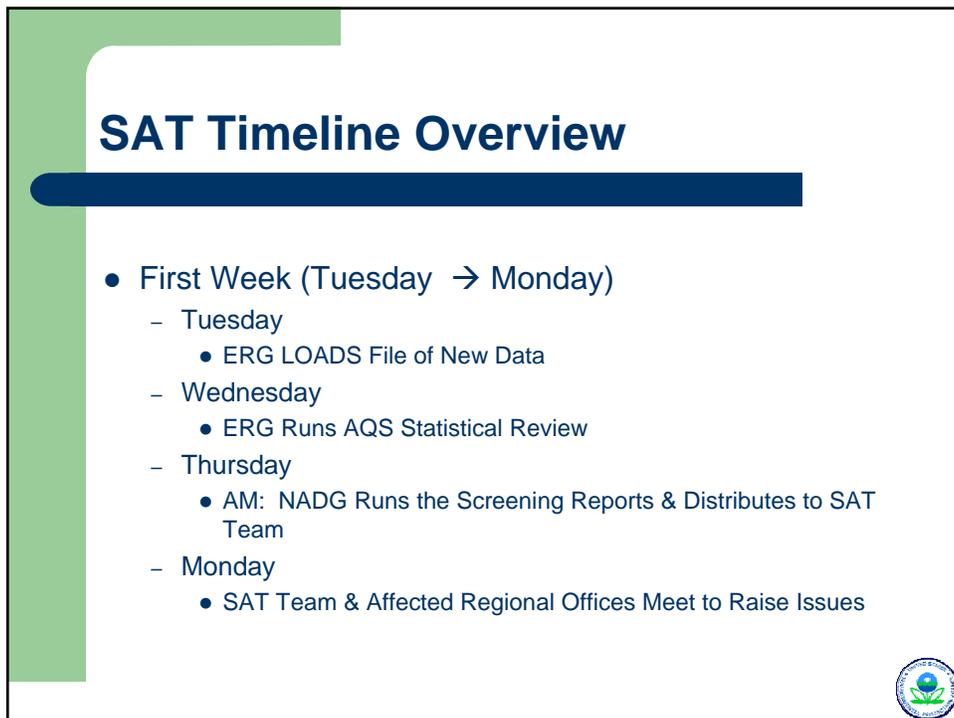
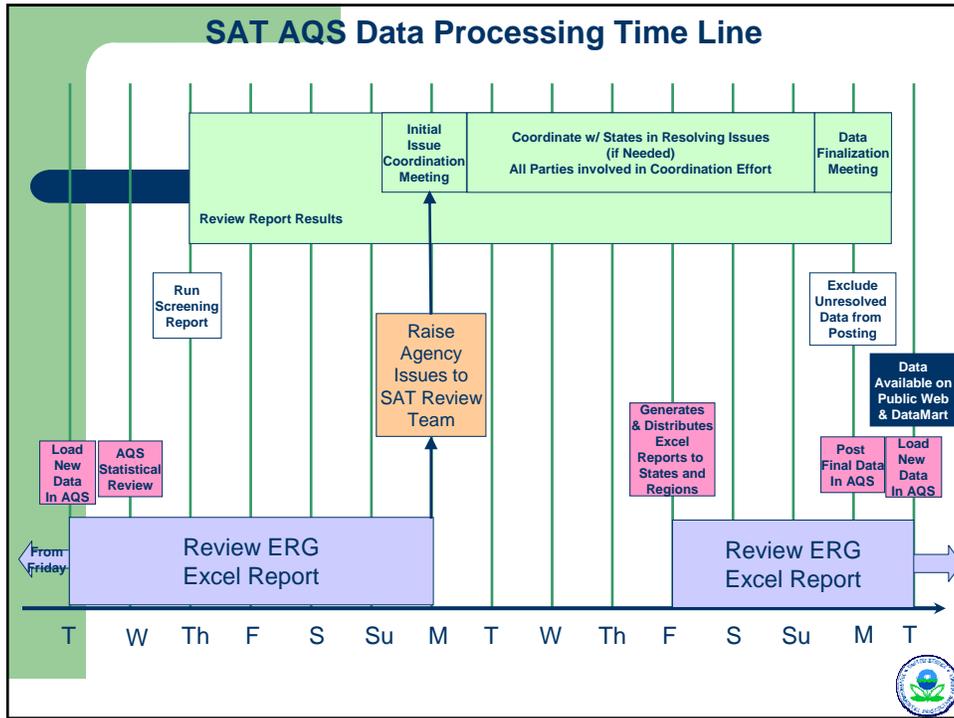


Quality System

- QAPP and Monitoring Plan are available on AMTIC
- <http://www.epa.gov/ttn/amtic/airtoxschool.html>
- Contact Dennis Mikel for more information







SAT Timeline Overview (Cont)

- 2nd Week
 - Tuesday – Friday
 - Coordinate with Submitting Agencies and ERG in Resolving Issues
 - Notify NADG of Any Data to be Excluded (May be Pushed to Monday AM)
 - The Following Monday
 - NADG Excludes Data in AM
 - Those Identified by Data Review
 - Any Site – Pollutant with Only 1 Value
 - ERG Runs the POST Process in the PM



SAT Team Data Review Meetings

- 1st Monday
 - Coordination Meeting to Identify Issues
 - Participants
 - SAT Team Members
 - Affected Region(s) Contact(s)
 - Expectations
 - All Members Have Reviewed Pertinent Materials
 - ERG Excel Report
 - SAT Screening Report
 - Collecting Agencies Have Identified Items to Regional Contacts by This Time



Additional Regional Responsibilities

- Before the Site Begins Monitoring:
 - Does it Already Have Site ID?
 - When Will it Begin Sampling?
- Distribute “Screening Report” to Appropriate Collecting Agencies
- Other “SAT-Like” Data Begin Collected:
 - YES WE WANT THIS DATA!!
 - Special Monitor Type Designation
 - “VOL SCHOOL AT”

