

DART Training for PAMS and CSN

(Data Analysis and Reporting Tool for
Photochemical Assessment Monitoring Station and
Chemical Speciation Network Data)

Jennifer DeWinter, Steve Brown, and Hilary Hafner
Sonoma Technology, Inc.

Beth Landis and Kevin Cavender
U.S. EPA

for

National Ambient Air Monitoring Conference

Data Validation Training Session
St. Louis, MO

August 8, 2016



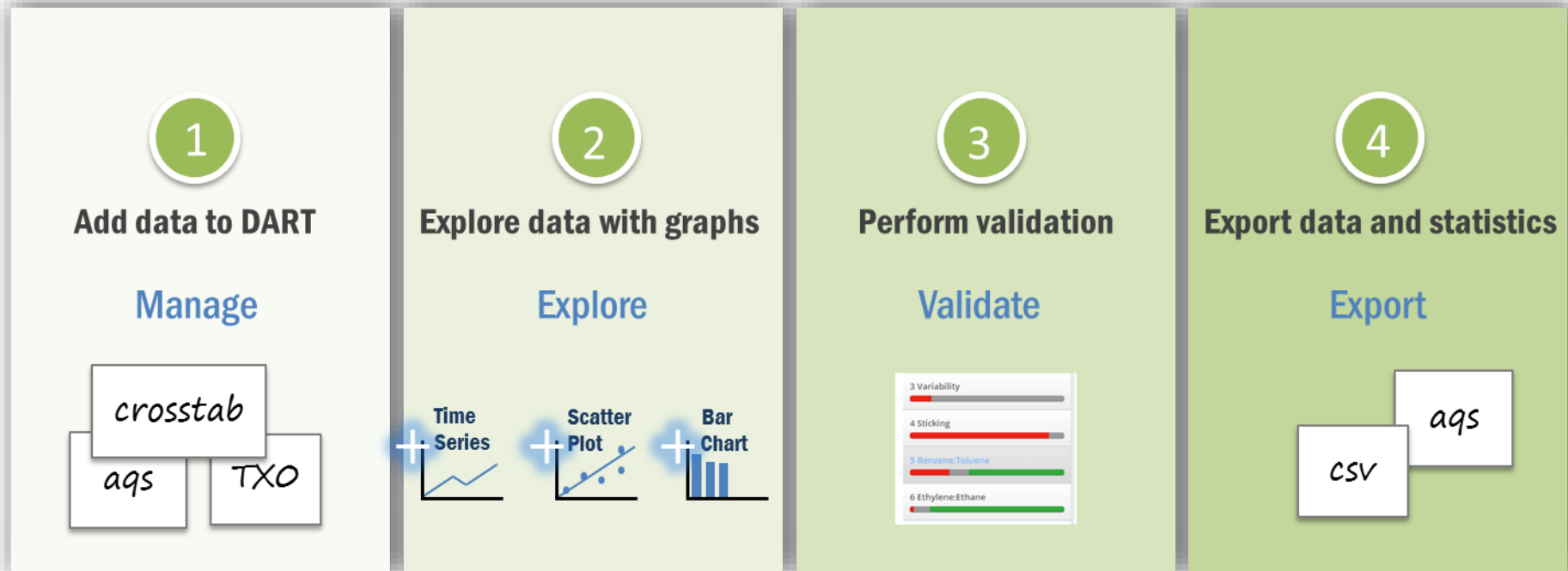
STi

Sonoma Technology, Inc.

Outline for Training Session

- DART overview
 - Accessing and navigating DART
 - Bringing data into DART
- Using DART as part of the new CSN data review process (with live demo)
- Using DART for PAMS (and other) data validation and analysis (with live demo)
- Future enhancements
- Q&A

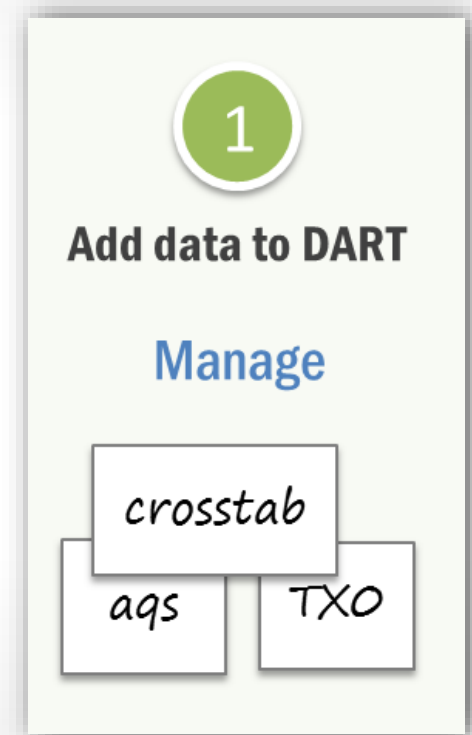
Data Analysis & Reporting Tool



- DART is a web-based data validation and analysis tool that allows monitoring agencies to manage, explore, validate, and flag data.
- DART includes automated screening, statistical summaries, and AQS-formatted data.

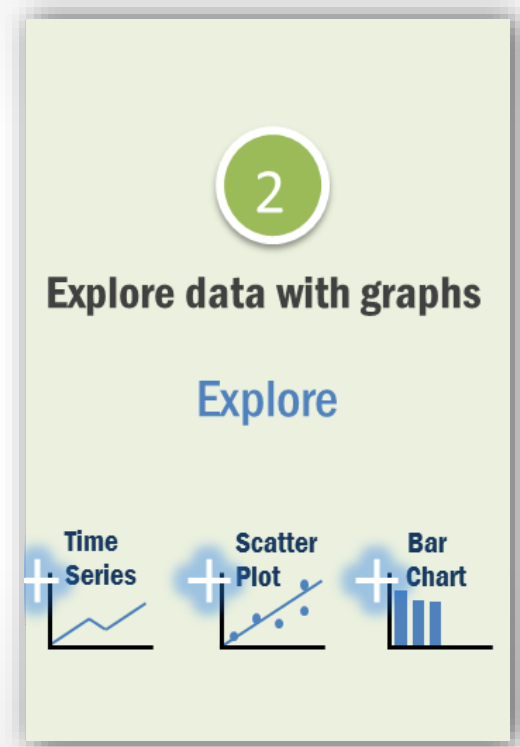
DART Features

- Manage data
 - Upload data files for validation
 - Request data from AQS
 - Convert units
 - Aggregate data



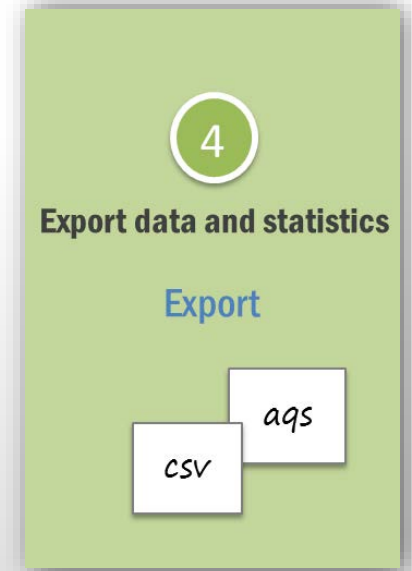
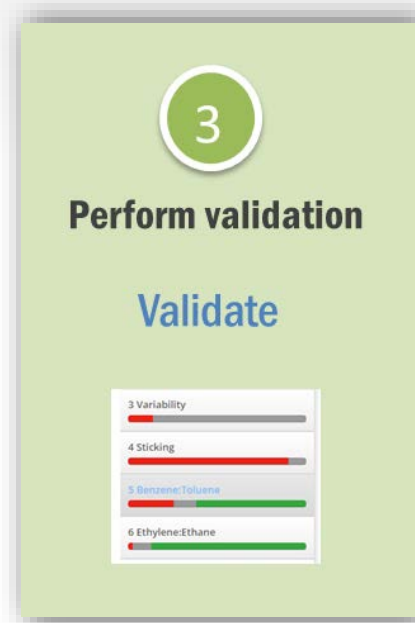
DART Features

- Explore data
 - Create time-series plots
 - Edit data
 - Create scatter plots
 - Create bar plots



DART Features

- Validate data
 - Screen data
 - “DART Smarts”
- Export data
 - Create AQS-ready files
 - Obtain summary statistics



Accessing DART

<http://www.airnowtech.org>

Requires an AirNow-Tech account

The screenshot shows the AirNow Tech website interface. At the top left is the AirNow Tech logo. The navigation menu includes Dashboard, Data, Navigator, Forecasts, Polling, Notifier, Tools, and Help. The 'Tools' menu is highlighted with a red circle, and a dropdown menu is visible showing 'DART' and 'MetDat'. Below the navigation is a 'News and Events' section titled 'The AirNow Discussion Forum' with a description and a list of topics. To the right is a 'Polling Summary' section with a 'Color Legend' table and a main data table for July 15, 2016 at 18:06 (ET). The main data table has columns for Agency, Ozone, PM_{2.5}, and PM₁₀.



Dashboard Data Navigator Forecasts Polling Notifier **Tools** Help

DART
MetDat

News and Events

The AirNow Discussion Forum

The EPA and the AirNow Data Management Center (DMC) have recently introduced the AirNow Discussion Forum to the community.

Located under the Help tab or at forum.airnowtech.org, the AirNow forum is a place to ask questions and join a discussion on various AirNow topics, including

- NowCast and AQI calculations
- Data Analysis Tools
- Data Delivery & Quality Control
- Forecasting & Reporting Areas
- EnviroFlash
- AirNowAPI

The website is publicly available. However, an AirNow-Tech account is needed to login and post/reply to topics.

Thank you for your attention.

Posted July 15, 2016, 15:41 (PT)

Polling Summary

Color Legend

Green	Current	Yellow	2 to 6 hrs old
Red	over 6 hrs old	Gray	Unknown status

July 15, 2016 18:06 (ET)

(All times are in ET)

Agency	Ozone	PM _{2.5}	PM ₁₀
AB1	07/15 16:00	07/15 16:00	02/25 09:00
AIR			
AK1	07/15 16:00	07/15 16:00	07/15 16:00
AL1	07/15 16:00	07/15 16:00	10/28 13:00
AL2	07/15 16:00	07/15 16:00	07/15 16:00
AL3			
AL4	07/15 16:00	07/15 16:00	
AR1	07/15 16:00	07/15 16:00	
AZ1	07/15 16:00	07/15 16:00	07/15 16:00
AZ2	07/15 16:00	07/15 16:00	07/15 16:00

Navigating DART

DART Home Page



Welcome, Jennifer DeWinter! | [My Account](#) | [Contact Us](#) | [Log Out](#)

[Dashboard](#) [Data](#) [Navigator](#) [Forecasts](#) [Polling](#) [Notifier](#) [EnviroFlash](#) [Tools](#) [Help](#)

Welcome to DART

[Manage](#) | [Explore](#) | [Validate](#) | [Export](#) | [Help](#)

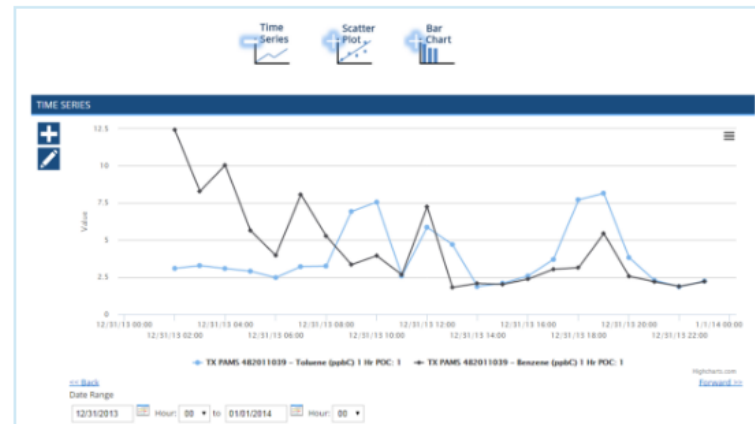
DART is your personal platform for air quality data validation and analysis!

You can upload your own air quality data or request it from AQS Data Mart.

Create graphs and use custom screening checks for data validation.

And use the DART export to prepare data for AQS submission.

Watch an introductory webinar on DART from May 2015 [here](#)



Here's how to get started...

Bringing Data into DART

Three ways to add data to DART

1. Upload data files from your computer
 - AQS format
 - CSV format
 - TX0 format
2. Request data from AQS
3. Receive data automatically from a laboratory transfer
 - Currently available for CSN data from UC Davis (UCD)

Bringing Data into DART

Welcome, Jennifer DeWinter | [My Account](#) | [Contact Us](#) | [Log Out](#)

AirNow Tech

Dashboard | Data | Navigator | Forecasts | Polling | Notifier | EnviroFlash | Tools | Help

DART | [Manage](#) | [Explore](#) | [Validate](#) | [Export](#) | [Help](#)

My Data Sets [add data +](#)

Date Received	Type	Data Set Name	Date Range (LST)	Status
07/14/2016	CROSS_TAB	CrossTabTest	06/14/2004 - 06/09/2005	Ready
07/14/2016	AQS	AQSUpload	10/01/2011 - 12/31/2011	Ready
07/14/2016	AQS	LivermoreRequest	11/20/2011 - 12/20/2011	
07/13/2016	AQS	Livermore071316	11/20/2011 - 12/20/2011	

Click the "add data" link from the "Manage" page

Choose "Upload" or "AQS Request"

DART | [Manage](#) | [Explore](#) | [Validate](#)

Options

Upload

AQS Request

UPLOAD A FILE

Data Set Name

File Type

State

County

Site

No file chosen

Your Data in DART

When you upload your PAMS (or other) data, or make an AQS Request:

- Currently, it's unique to you
- In future, you will be able to share your data within your agency (and potentially with other AirNow-Tech users)

The screenshot shows the DART web interface. At the top left is the 'DART' logo. At the top right are navigation links: 'Manage | Explore | Validate | Export | Help'. Below the logo is the heading 'My Data Sets' and a link 'add data +'. The main content is a table with the following columns: 'Date Received', 'Type', 'Data Set Name', 'Date Range (LST)', and 'Status'. There are two rows of data. The first row has '10/23/2015', 'AQS', 'HRH test2', '06/01/2014 - 08/30/2014', and a green 'Ready' button with a download icon. The second row has '05/11/2015', 'AQS', 'My Sample Data Set', '11/18/2011 - 12/10/2011', and a green 'Ready' button with a download icon. Below the table is a pagination control 'Show 10 entries' and 'Previous 1 Next'. At the bottom center, it says 'Showing 1 to 2 of 2 entries'.

Date Received	Type	Data Set Name	Date Range (LST)	Status
10/23/2015	AQS	HRH test2	06/01/2014 - 08/30/2014	Ready
05/11/2015	AQS	My Sample Data Set	11/18/2011 - 12/10/2011	Ready

Show 10 entries Previous 1 Next

Showing 1 to 2 of 2 entries

Your Data in DART

CSN data from UC Davis are available to approved CSN validators in your agency

DART

Manage | Explore | Validate | Export | Help

Agency data table with CSN data sets

New York Dept. of Environmental Conservation Data Sets

Date Received	Type	Data Set Name	Date Range (LST)	Data Status	Download	Approval Status
06/27/2016	Lab - CSN	360010005 CSN Data	11/26/2015 - 02/06/2016	Ready for use		
06/27/2016	Lab - CSN	360050110 CSN Data	11/20/2015 - 02/09/2016	Ready for use		
06/27/2016	Lab - CSN	360290005 CSN Data	11/26/2015 - 02/06/2016	Ready for use		
06/27/2016	Lab - CSN	360310003 CSN Data	11/26/2015 - 02/06/2016	Ready for use		
06/27/2016	Lab - CSN	360551007 CSN Data	11/20/2015 - 02/09/2016	Ready for use		
06/27/2016	Lab - CSN	360610134 CSN Data	11/20/2015 - 02/09/2016	Ready for use		
06/27/2016	Lab - CSN	360810124 CSN Data	11/20/2015 - 02/09/2016	Ready for use		
06/27/2016	Lab - CSN	361010003 CSN Data	11/20/2015 - 02/09/2016	Ready for use		

Show 10 entries

Showing 1 to 8 of 8 entries

Previous 1 Next

My Data Sets

add data +

Date Received	Type	Data Set Name	Date Range (LST)	Data Status	Download	Delete
05/24/2016	AQS	My Sample Data Set	11/18/2011 - 12/10/2011	20%		

Show 10 entries

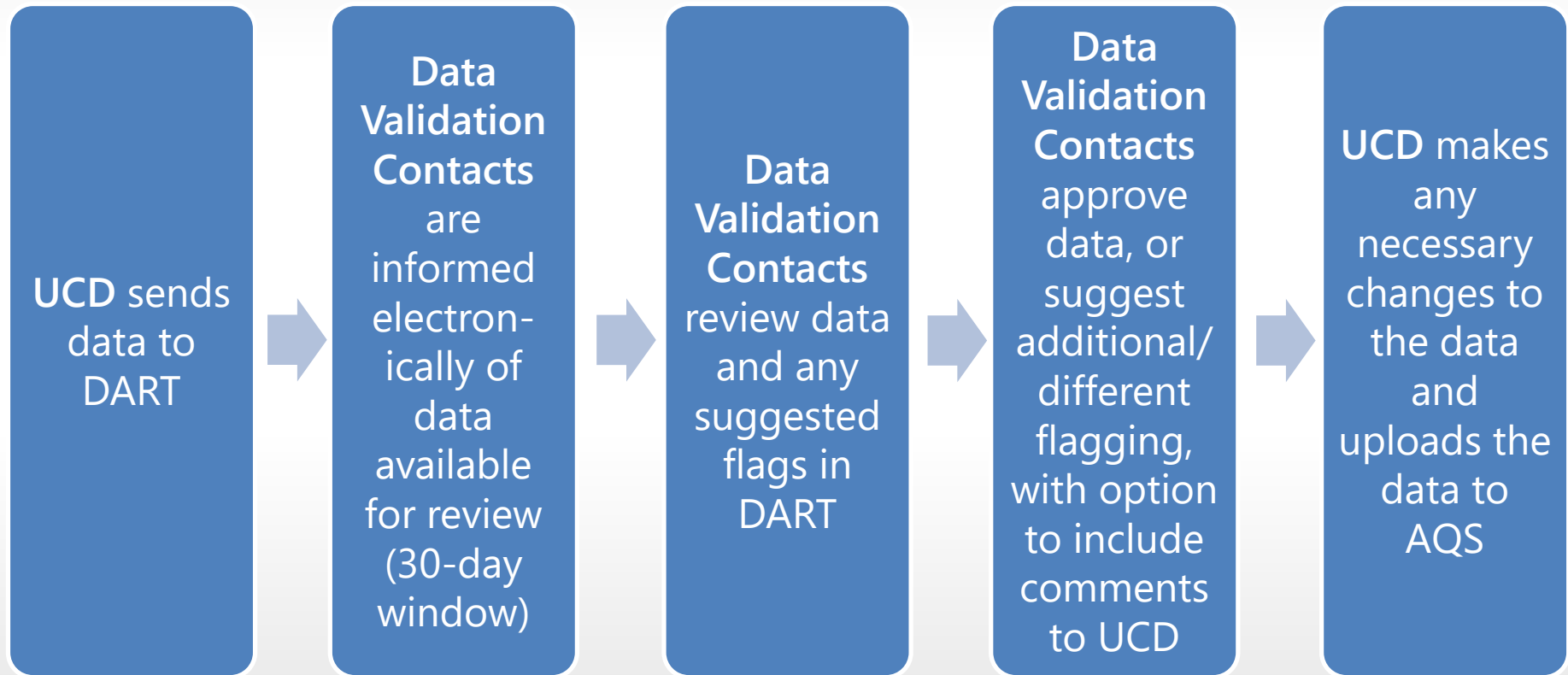
Showing 1 to 1 of 1 entries

Previous 1 Next

CSN Data Review Process

1. UC Davis generates laboratory data; acquires mass data from continuous FEMs (as available) from AirNow-Tech.
2. UCD conducts data validation (details on next slide).
3. UCD sends the data batch to DART.
4. DART ingests the batch data, then automatically alerts CSN data reviewers (details on following slides) that data are available in DART.
5. CSN data reviewers then have 30 days to review and approve the data.
6. After 30 days, the data are sent back to UCD for final review and submission to AQS.

DART Data Flow for CSN



CSN Data Validators

- One agency is responsible for data validation for each site (e.g., New York DEC reviews Rochester site data).
- For each site, EPA provided a list of data validators and their associated agency.
- All listed data validators for an individual agency have access to the agency data in DART; they do not have access to data that are not for their agency.
- Once data are available in DART for review, the data validators will be contacted automatically via email.

CSN Data Review in DART

- Once data are in DART, validators have 30 days to review and approve the CSN batch.
- DART provides summary statistics
 - flags and comments that UCD applied
 - other data characteristics (percent complete, percent above detection limit, etc.)
- In DART, validators can flag and comment on data for UCD to review, and use sortable tables to review the CSN batch.
- Time-series and bar plots are linked to the data table so validators can also graph the data.

CSN Data Review in DART

From: Dart Email Notification [<mailto:noreply@airnowtech.org>]
Sent: Friday, June 24, 2016 10:33 AM
To: Angela L. Ekstrand
Subject: Current batch of CSN data expires in 14 days!

Automated Notification
Via Email

Dear DART User,

Please disregard this email if you have already completed your review.

You currently have a batch of CSN data waiting for you to approve in [DART](#). These data are available until 11:59 pm on **Saturday, July 23, 2016**; upon expiration, the data are returned to the laboratory and submitted to AQS.

Your current batch has 2 sites.

"Review by"

QUEENS COLLEGE 2 (360810124) has 14 samples from 11/20/2015 00:00:00 to 12/29/2015 00:00:00.

Data sets

PINNACLE STATE PARK (361010003) has 14 samples from 11/20/2015 00:00:00 to 12/29/2015 00:00:00.

Please email CSNsupport@sonomatech.com if you have questions or trouble accessing your data.

Thanks,
DART Support Team

Help!

CSN Data Review in DART

DART Manage | Explore | Validate | Export | Help

New York Dept. of Environmental Conservation Data Sets

Date Received	Type	Data Set Name	Date Range (LST)	Data Status	Download	Approval Status
06/27/2016	Lab - CSN	360010005 CSN Data	11/26/2015 - 12/26/2015	Ready for use		
06/27/2016	Lab - CSN	360050110 CSN Data	11/20/2015 - 12/29/2015	Ready for use		
06/27/2016	Lab - CSN	360290005 CSN Data	11/26/2015 - 12/26/2015	Ready for use		
06/27/2016	Lab - CSN	360310003 CSN Data	11/26/2015 - 12/26/2015	Ready for use		
06/27/2016	Lab - CSN	360551007 CSN Data	11/20/2015 - 12/29/2015	Ready for use		
06/27/2016	Lab - CSN	360610134 CSN Data	11/20/2015 - 12/29/2015	Ready for use		
06/27/2016	Lab - CSN	360810124 CSN Data	11/20/2015 - 12/29/2015	Ready for use		
06/27/2016	Lab - CSN	361010003 CSN Data	11/20/2015 - 12/29/2015	Ready for use		

Approval Mode for review of data from the lab

CSN Data Review in DART

← Batch Created: 07/29/2016 - Review By: 08/28/2016 23:59

"Review by" Date

Total Samples: 6

Date Range: 01/07/2016 - 02/06/2016

Date	Species	Total Qualifiers	Total Null Codes	Data Completeness	Data Above Detection
01/07/2016	47	32	11	77%	32%
01/13/2016	47	45	1	98%	34%
01/19/2016	47	28	1	98%	40%
01/25/2016	47	26	1	98%	45%
01/31/2016	47	30	1	98%	36%
02/06/2016	47	25	1	98%	47%

Batch Data

Flag as reviewed

Filter:

Reviewed	Date	Parameter	POC	Value	MDL	Uncertainty	Unit	Null Code	Qualifier Code	Comments
<input type="checkbox"/>	01/07/2016	Total Nitrate PM2.5 LC	5	-999.0	0.0	0.0	ug/m3	AM		
<input type="checkbox"/>	01/07/2016	Vanadium PM2.5 LC	5	-1.2E-4	0.00128	7.8E-4	ug/m3		MD	
<input type="checkbox"/>	01/07/2016	Zinc PM2.5 LC	5	0.00162	0.00326	0.00199	ug/m3		MD	
<input type="checkbox"/>	01/07/2016	Zirconium PM2.5 LC	5	-0.00198	0.01561	0.0095	ug/m3		MD	
<input checked="" type="checkbox"/>	01/13/2016	Zirconium PM2.5 LC	5	-0.01687	0.01563	0.01039	ug/m3		5, MD	
<input type="checkbox"/>	01/13/2016	Zinc PM2.5 LC	5	0.00189	0.00327	0.002	ug/m3		5, MD	

Save

CSN Data Review in DART

Batch Created: 07/29/2016 - Review By: 08/28/2016 23:59
 Total Samples: 6 Date Range: 01/07/2016 - 02/06/2016

Date	Species	Total Qualifiers	Total Null Codes
01/07/2016	47	32	11
01/13/2016	47	45	1

Edit Batch

Recent Comment:
Comment has not been added yet.

Edit Null Code:
No null code

Edit Qualifier Code:
* MD - Value less than MDL

Apply to:
Selected Species

Edit Comment:

Cancel Save

Apply null or
qualifier codes

Comments

"Outlier for XRF-IC Comparison"
07/29/2016 16:29 UTC

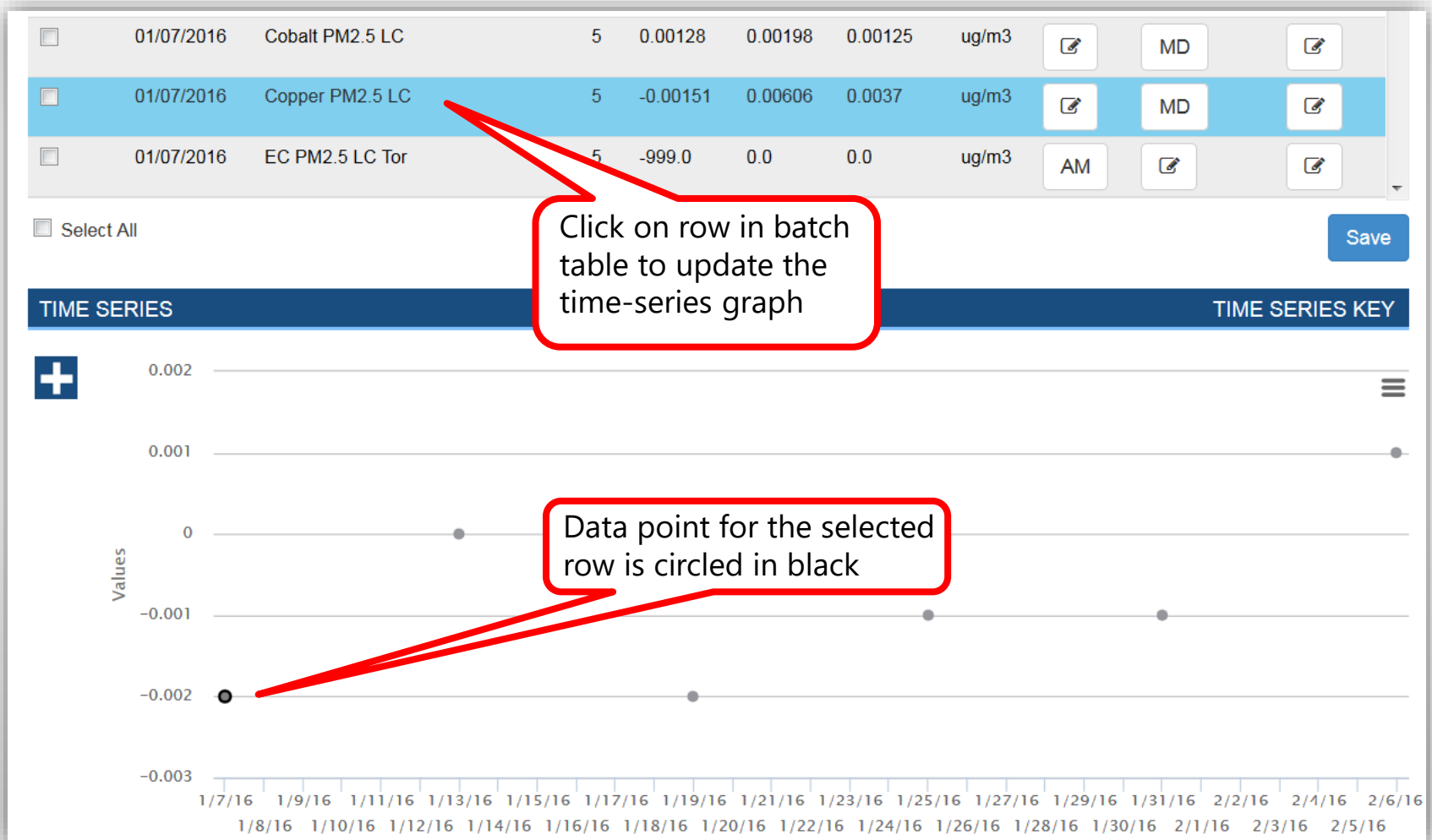
Add Comment:

save

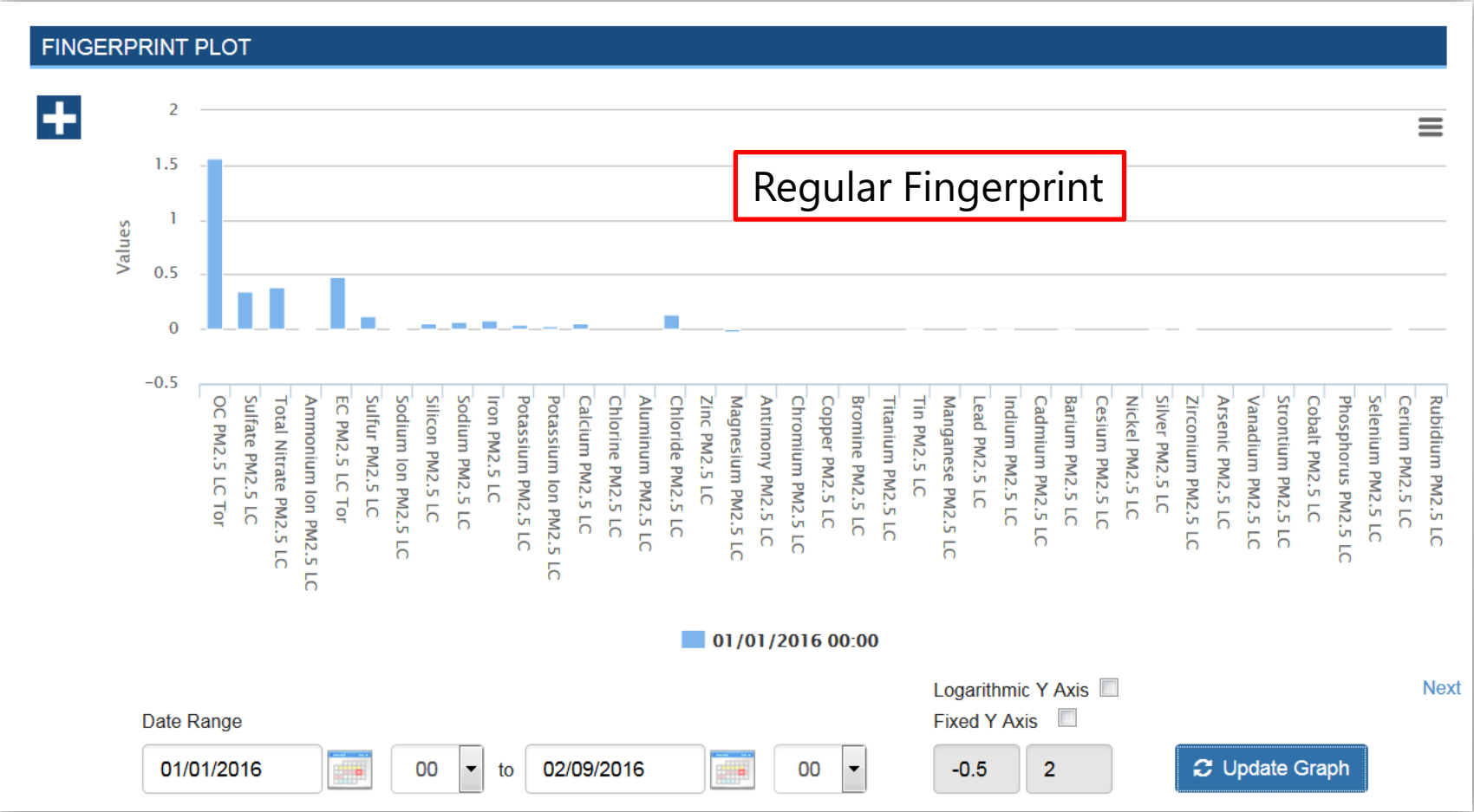
Changes and
comments log

MDL	Uncertainty	Unit	Null Code	Qualifier Code	Comments
0.0	0.0	ug/m3	AM		
0.00128	7.8E-4	ug/m3		MD	
0.00326	0.00199	ug/m3		MD	
0.01561	0.0095	ug/m3		MD	
0.01563	0.01039	ug/m3		5, MD	
0.00327	0.002	ug/m3		5, MD	

CSN Data Review in DART

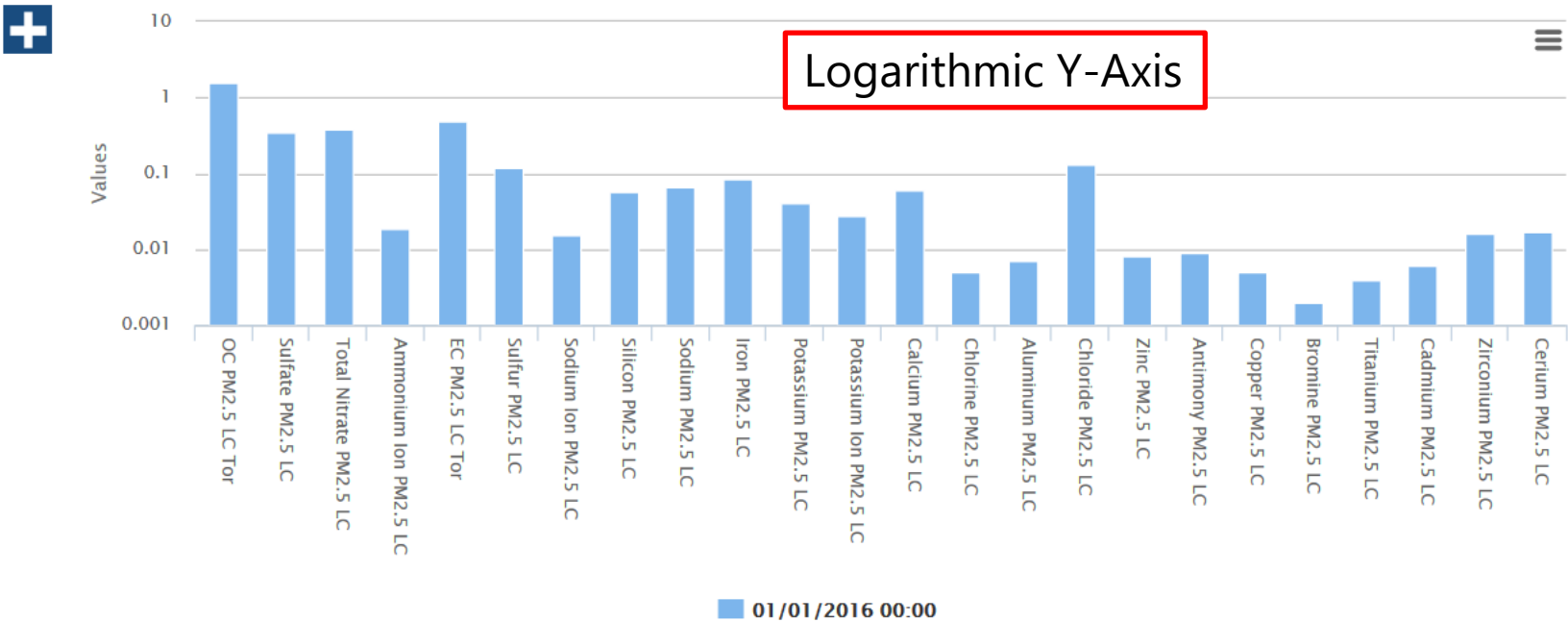


CSN Data Review in DART



CSN Data Review in DART

FINGERPRINT PLOT



Warning: With a logarithmic Y axis, negative and zero values are not shown.

Date Range

01/01/2016



00

to

02/09/2016



00

-3

1

Logarithmic Y Axis

Fixed Y Axis

Update Graph

Next

CSN Data Review in DART

FINGERPRINT PLOT

360010005 CSN Data
360050110 CSN Data
360290005 CSN Data
360310003 CSN Data
360551007 CSN Data
360610134 CSN Data
360810124 CSN Data
361010003 CSN Data

My Data Sets
My Sample Data Set

ROCHESTER 2

Settings **Graph**

Select All Select All CSN Species Sort by CSN

Filter by Nylon Filter by Quartz Filter by Teflon

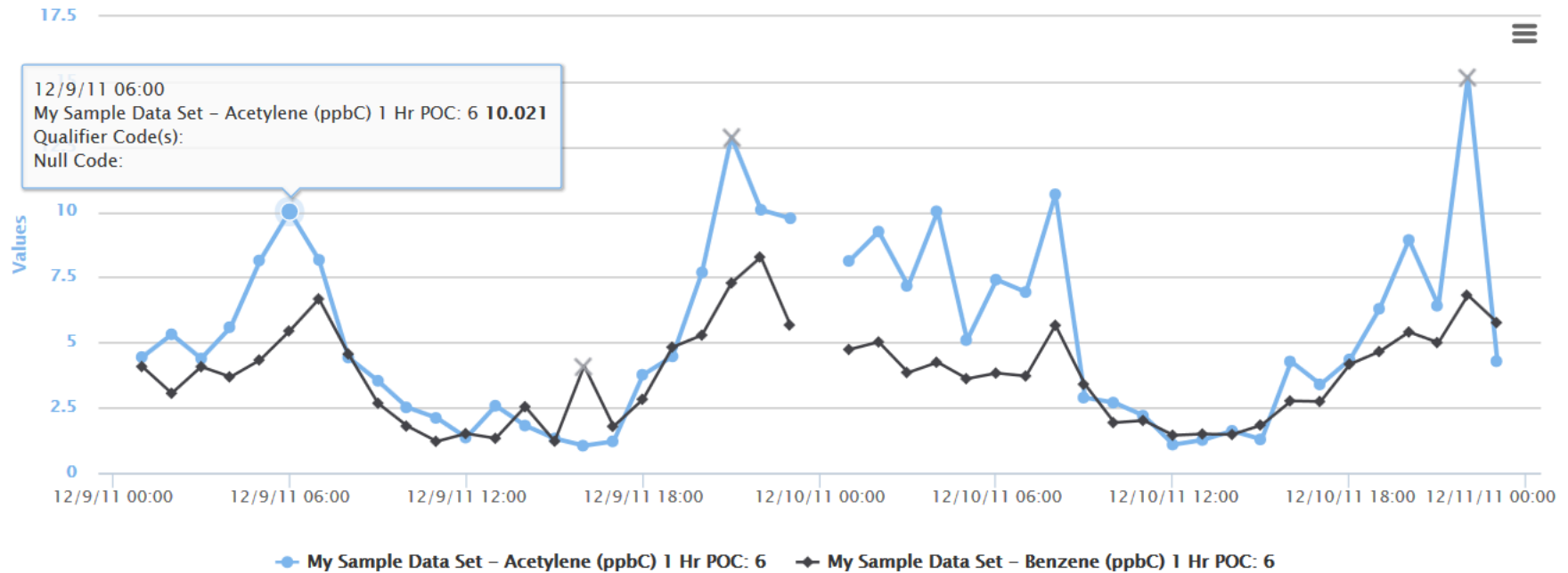
<input checked="" type="checkbox"/> OC PM2.5 LC Tor	<input checked="" type="checkbox"/> Sulfate PM2.5 LC	<input checked="" type="checkbox"/> Total Nitrate PM2.5 LC	<input checked="" type="checkbox"/> Ammonium Ion PM2.5 LC
<input checked="" type="checkbox"/> EC PM2.5 LC Tor	<input checked="" type="checkbox"/> Sulfur PM2.5 LC	<input checked="" type="checkbox"/> Sodium Ion PM2.5 LC	<input checked="" type="checkbox"/> Silicon PM2.5 LC
<input checked="" type="checkbox"/> Sodium PM2.5 LC	<input checked="" type="checkbox"/> Iron PM2.5 LC	<input checked="" type="checkbox"/> Potassium PM2.5 LC	<input checked="" type="checkbox"/> Potassium Ion PM2.5 LC
<input checked="" type="checkbox"/> Calcium PM2.5 LC	<input checked="" type="checkbox"/> Chlorine PM2.5 LC	<input checked="" type="checkbox"/> Aluminum PM2.5 LC	<input checked="" type="checkbox"/> Chloride PM2.5 LC
<input checked="" type="checkbox"/> Zinc PM2.5 LC	<input checked="" type="checkbox"/> Magnesium PM2.5 LC	<input checked="" type="checkbox"/> Antimony PM2.5 LC	<input checked="" type="checkbox"/> Chromium PM2.5 LC
<input checked="" type="checkbox"/> Copper PM2.5 LC	<input checked="" type="checkbox"/> Bromine PM2.5 LC	<input checked="" type="checkbox"/> Titanium PM2.5 LC	<input checked="" type="checkbox"/> Tin PM2.5 LC
<input checked="" type="checkbox"/> Manganese PM2.5 LC	<input checked="" type="checkbox"/> Lead PM2.5 LC	<input checked="" type="checkbox"/> Indium PM2.5 LC	<input checked="" type="checkbox"/> Cadmium PM2.5 LC
<input checked="" type="checkbox"/> Barium PM2.5 LC	<input checked="" type="checkbox"/> Cesium PM2.5 LC	<input checked="" type="checkbox"/> Nickel PM2.5 LC	<input checked="" type="checkbox"/> Silver PM2.5 LC
<input checked="" type="checkbox"/> Zirconium PM2.5 LC	<input checked="" type="checkbox"/> Arsenic PM2.5 LC	<input checked="" type="checkbox"/> Vanadium PM2.5 LC	<input checked="" type="checkbox"/> Strontium PM2.5 LC
<input checked="" type="checkbox"/> Cobalt PM2.5 LC	<input checked="" type="checkbox"/> Phosphorus PM2.5 LC	<input checked="" type="checkbox"/> Selenium PM2.5 LC	<input checked="" type="checkbox"/> Cerium PM2.5 LC
<input checked="" type="checkbox"/> Rubidium PM2.5 LC	<input type="checkbox"/> Ammonium Nitrate PM2.5 LC	<input type="checkbox"/> Ammonium Sulfate PM2.5 LC	<input type="checkbox"/> Elements
<input type="checkbox"/> Ions	<input type="checkbox"/> Organic Carbon Mass PM2.5 LC	<input type="checkbox"/> PM2.5 Raw Data	<input type="checkbox"/> Reconstructed Mass PM2.5 LC

Date Range: 01/01/2016

Transition To PAMS Training

Time-Series Graphs

TIME SERIES



<< Back

Forward >>

Date Range

12/09/2011



00



to

12/11/2011



00



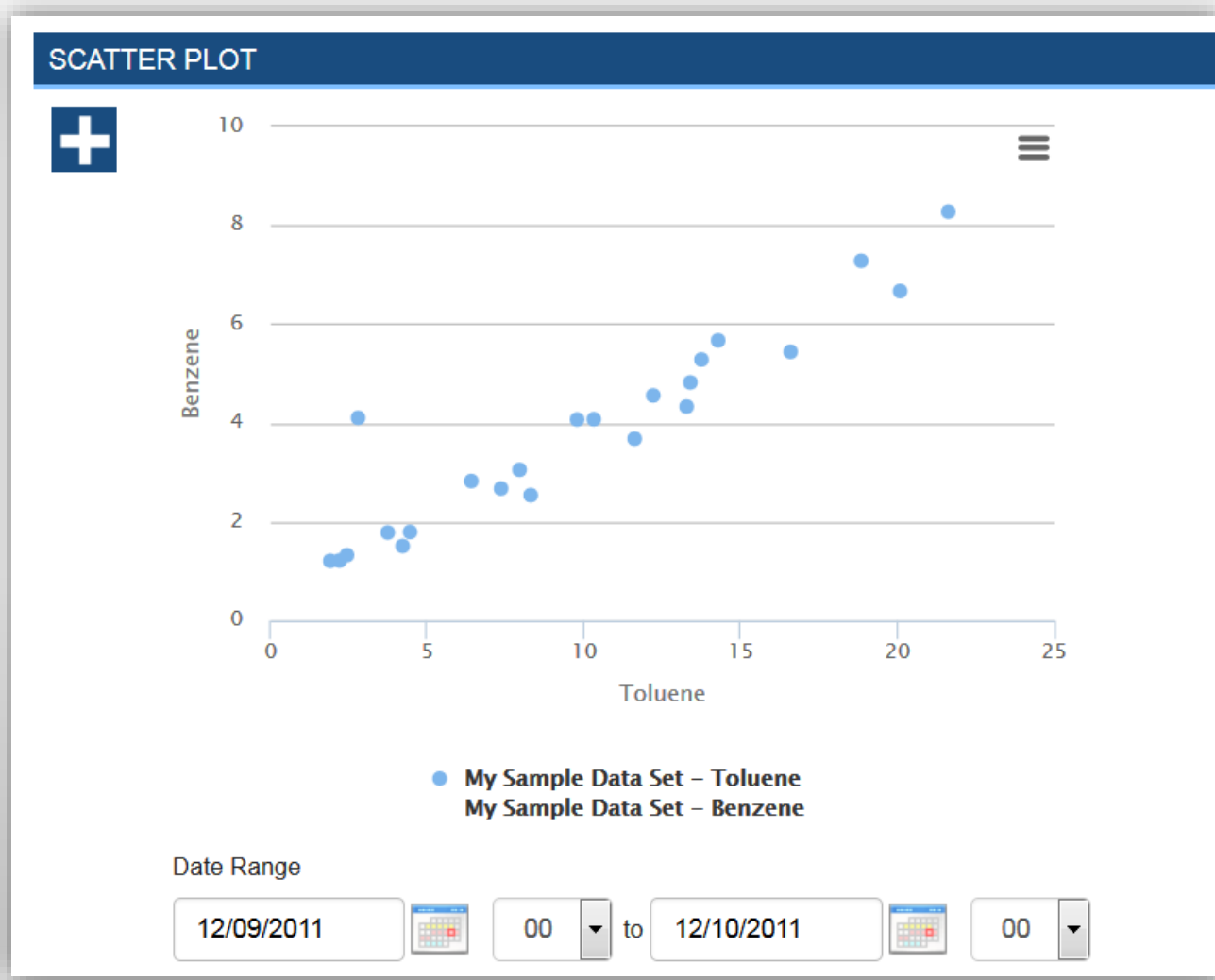
Fixed Y Axis 1

0

17.5

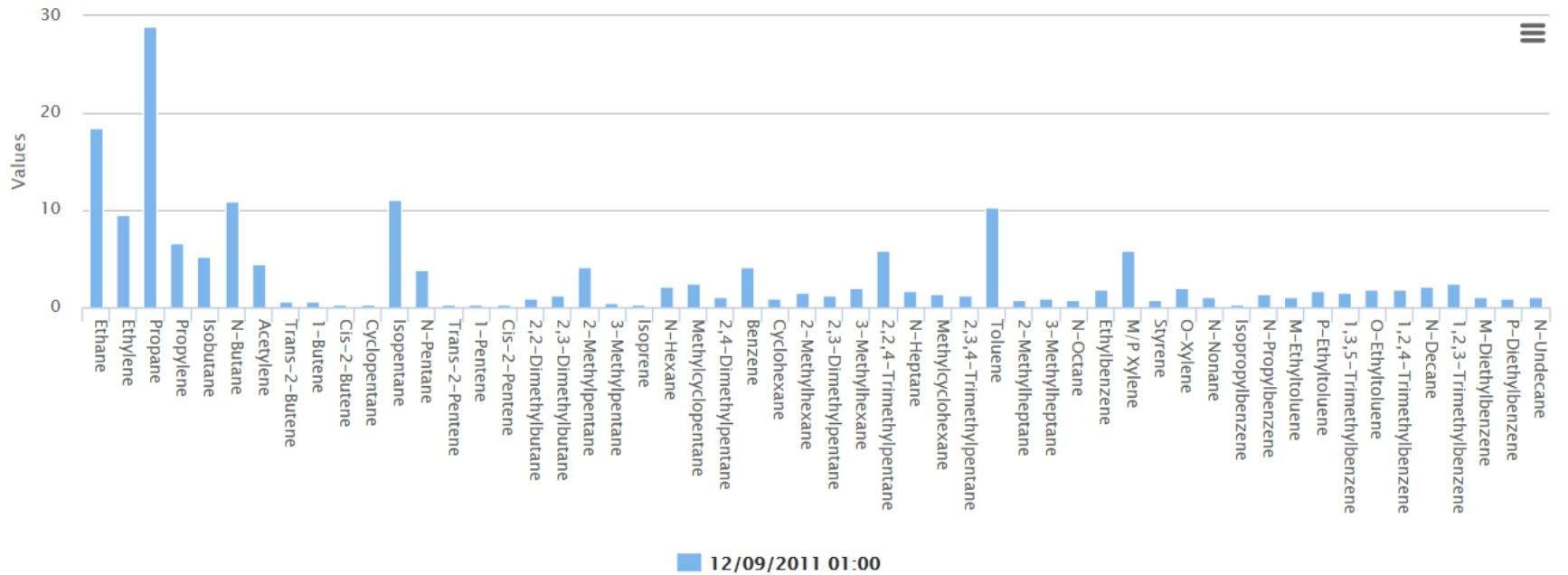
Update Graph

Scatter Plots



Bar Plots

FINGERPRINT PLOT



-1 hour

+1 hour

Date Range

12/09/2011



00



to

12/10/2011



00

Fixed Y Axis

0

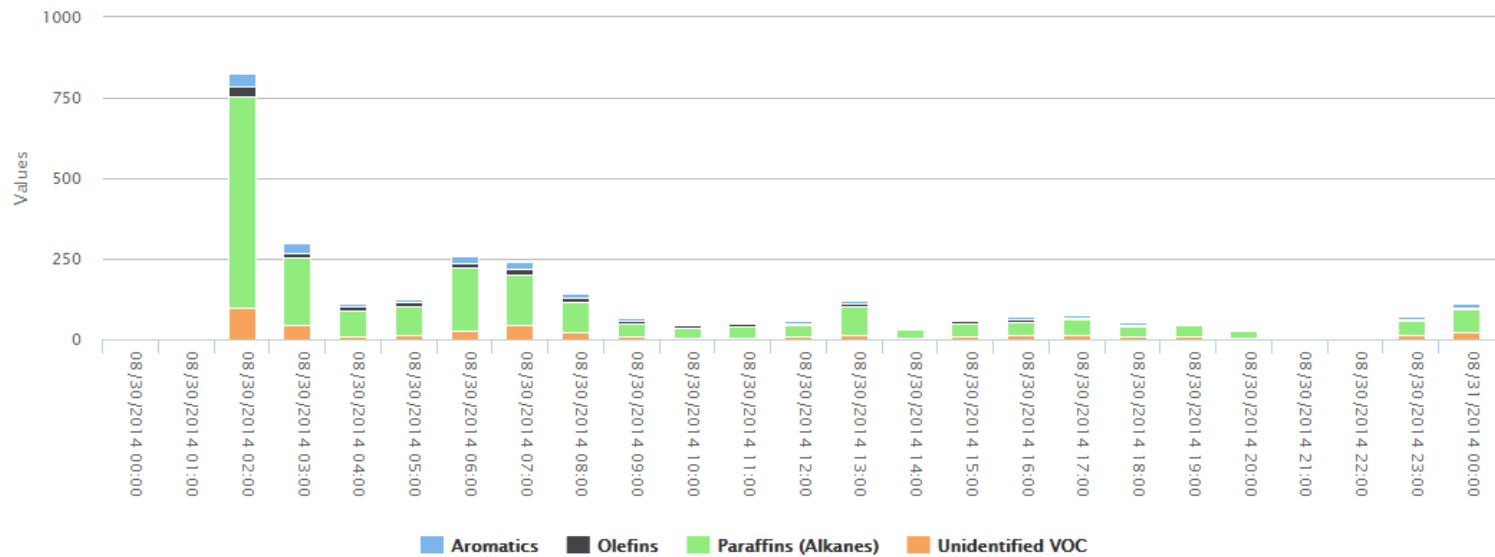
30

Update Graph

Stacked Bar Charts



STACKED BAR CHART



Previous

Next

Date Range

08/30/2014



00

to

08/31/2014



00

Fixed Y Axis

0

1000

Update Graph

Auto-Validation: Screening

Check	Fails If ...	DART Smarts Action If Check Fails
Abundant Species	Any of Benzene, Propane, N-Butane, Isoprene, N-Hexane, Ethylbenzene are missing or 0	If two or more species missing or = 0, flag sample with code "AQ"
TNMOC	- TNMOC is missing or 0; or - Unidentified exceeds 50% of TNMOC; or - Sum of PAMS exceeds TNMOC	-Flag TNMOC and Unidentified with code "AN" -Flag Unidentified with code "DA" -Flag TNMOC and Sum of PAMS with code "DA"
Variability	Species concentration exceeds the mean + 4*standard deviation	None
Sticking	Species has same non-zero value for 3 or more consecutive samples	Flag species with code "DA"
Benzene : Toluene	Benzene exceeds 0.2 and exceeds Toluene	Flag Benzene and Toluene with code "DA"
Ethylene : Ethane	Ethylene exceeds 0.5 and exceeds Ethane	Flag Ethylene and Ethane with code "DA"
Propylene : Propane	Propylene exceeds 0.5 and exceeds Propane	Flag Propylene and Propane with code "DA"

Auto-Validation: Screening

Check	Fails If ...	DART Smarts Action If Check Fails
O-Xylene : M/P Xylene	O-Xylene exceeds 0.5 and exceeds M/P Xylene	Flag Xylenes with code "DA"
Methylpentanes	3-Methylpentane exceeds 0.1 and exceeds $0.6 \times 2\text{-Methylpentane}$	If 3-Methylpentane exceeds 0.1 and exceeds $0.65 \times 2\text{-Methylpentane}$, then flag Methylpentanes with code "BH"
Undecane : Decane	N-Undecane exceeds 0.5 and exceeds N-Decane	Flag N-Undecane and N-Decane with code "DA"
Olefins : Paraffins	Sum of Olefins exceeds Sum of Paraffins	Flag Olefins and Paraffins with code "DA"
Carbon Tetrachloride	Carbon Tetrachloride exceeds 0.16 ppb	Flag Carbon Tetrachloride with code "AQ"
Formaldehyde	Formaldehyde is less than 0.3 ppb	None
Nighttime Isoprene	Isoprene increases between 8 pm and 3 am local time	Flag Isoprene with code "DA"

All checks done in ppbC, except carbon tetrachloride and formaldehyde checks, which use ppb.. AQ = collection error; AN = machine malfunction; DA = aberrant data; BH = interference/coelution/misidentification.

Auto-Validation: Workflow

DART Manage | Explore **Validate** Export | Help

VALIDATION SESSIONS

SampleData Data set: My Sample Data Site: LIVERMORE - RINCON Load

SETUP NEW SESSION

1 Select Screening Level

Basic Level 0-1 Intermediate Level 2 Coming soon Advanced Level 3 Coming soon

2 Select Data

Select a task group Please select a task group [configure](#)

Enable DART Smarts

Select data set User File 1

Select site from User File 1 SACRAMENTO - DEL PASO MANOR

Set up custom screening checks

VALIDATION SESSIONS

SampleData

Data set:
My Sample Data

Site:
LIVERMORE - RINCON

Load

Create New Task Group

Task group name

PAMS Basic

Duration

1 Hr

1.

Check type

Abundant Species

Fails when

Benzene Ethylbenzene Isoprene

N-Butane N-Hexane Propane

Check nickname

Abundant Species

is missing or

<= 0

Apply null code?

No null code

Applies to whole sample
for a failed hour

2.

Check type

TNMOC

Fails when

TNMOC = 0

TNMOC * 0.5 < Unidentified

TNMOC < 1.1 * Sum of PAMS

Check nickname

TNMOC

Apply null code?

AN

3.

Check type

Variability

Fails when

1,2,3-Trimethylbenzene

1,2,4-Trimethylbenzene

1,3,5-Trimethylbenzene 1-Butene

1-Pentene 2,2,4-Trimethylpentane

Check nickname

Variability

Apply null code?

DA

average + 0 * stddev.

Auto-Validation: Workflow

DART

Manage | Explore | **Validate** | Export | Help

Summary

1 Abundant Species



2 TNMOC



3 Variability



4 Benzene:Toluene



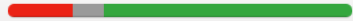
5 Ethylene:Ethane



6 Propylene:Propane



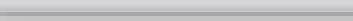
7 O-Xylene:M/P Xylene



8 Methylpentanes



9 Undecane:Decane



test - PAMS Basic

Summary

Data Set	Site	Total Samples	Passes	Missing	Failures	Null Codes	Date Range
My Sample Data Set	LIVERMORE - RINCON	552	0	376	420	455	11/18/2011 - 12/10/2011

Summary

Date Time (LST)	1	2	3	4	5	6	7	8	9	10	11	12
11/18/2011 00:00	🚩	👤	👤	👤	👤	👤	👤	👤	👤	👤	👤	👤
11/18/2011 01:00		🚩	👤					🚩			👤	👤
11/18/2011 02:00		👤	👤					🚩			👤	👤
11/18/2011 03:00		👤	👤					🚩			👤	👤
11/18/2011 04:00	✘	🚩	👤					🚩			👤	👤
11/18/2011 05:00		🚩	👤					🚩			👤	👤
11/18/2011 06:00		🚩	👤				🚩				👤	👤
11/18/2011 07:00		🚩	👤				🚩	🚩			👤	👤
11/18/2011 08:00	✘	🚩	👤					🚩			👤	👤
11/18/2011 09:00	✘	🚩	👤					🚩			👤	👤
11/18/2011 10:00		🚩	👤					🚩			👤	👤

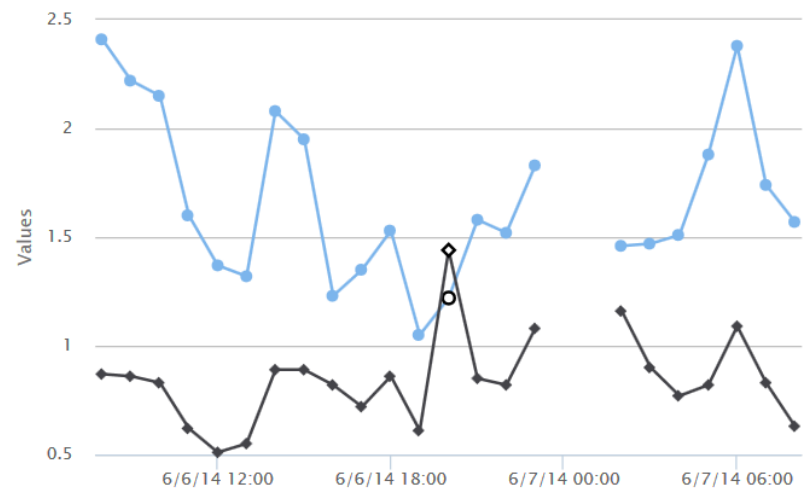
Auto-Validation: Workflow

- Summary
- 1 Abundant Species
- 2 TNMOC
- 3 Variability
- 4 Benzene:Toluene
- 5 Ethylene:Ethane
- 6 Propylene:Propane
- 7 O-Xylene:M/P Xylene
- 8 Methylpentanes
- 9 Undecane:Decane
- 10 Olefins:Paraffins
- 11 Carbon Tetrachloride
- 12 Formaldehyde

DV clinton drive - PAMS Basic

Benzene:Toluene

Data Set	Site	Total Samples	Passes	Missing	Failures	Null Codes	Date Range
HRH test2	CLINTON	1832	0	175	309	356	06/01/2014 - 08/30/2014



◆ HRH test2 - Toluene (ppbC) 1 Hr POC: 2
◆ HRH test2 - Benzene (ppbC) 1 Hr POC: 2

<< Back

Forward >>

Date Range

Hour:
 to

 Hour:

Y Axis

Minimum:
 Maximum:
 Fixed min/max

Filter:

Reviewed	Date Time (LST)	DART Smarts	Failed Param
<input type="checkbox"/>	06/06/2014 20:00		Benze Toluer
<input checked="" type="checkbox"/>	07/04/2014 01:00	■	Toluer Benze
<input type="checkbox"/>	07/04/2014 14:00		Benze Toluer
<input type="checkbox"/>	07/04/2014 15:00		Toluer Benze
<input type="checkbox"/>	07/04/2014 18:00		Benze Toluer
<input type="checkbox"/>	07/05/2014 09:00	■	Toluer Benze
<input type="checkbox"/>	07/05/2014 10:00		Benze Toluer
<input type="checkbox"/>	07/05/2014 11:00	■	Toluer Benze
<input type="checkbox"/>	07/05/2014 13:00	■	Benze Toluer
<input type="checkbox"/>	07/06/2014 08:00		Toluer Benze
<input type="checkbox"/>	07/12/2014 15:00	■	Benze Toluer

Getting Help

Manage | Explore | Validate | Export | **Help**

DART
Search

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 - 4.1 Manage
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 - 4.1.2 Agency Data Sets from a Laboratory
 - 4.2 Explore
 - 4.3 Validate
 - 4.4 Export
- 5. More Information
- Acknowledgments
- Glossary and Acronyms

[\(Previous Topic: 4.1.1 Supported File Formats\)](#)

4.1.2 Agency Data Sets from a Laboratory

In addition to ingesting file uploads and AQS requests, DART can ingest data directly from an air quality laboratory. Data from a laboratory can be provided to DART via File Transfer Protocol (FTP) and are automatically made available in the correct DART user accounts.

Currently, PM_{2.5} speciation data collected as part of the Chemical Speciation Network (CSN) program are transferred to DART from the Crocker Nuclear Laboratory at the University of California, Davis. CSN data are listed in the **Agency** table on the **Manage** screen, in the DART user accounts that are registered to the appropriate agency. Data are received from the laboratory in batches and are available for review and validation using the DART **Approval Mode** screen.

View the date of the most recent batch from the laboratory.

View the data set name; each data set includes data for one monitoring site.

Click the icon to enter Approval Mode and review data from the laboratory.

Note the green check mark for data that do not require review.

Getting Help

Feedback button



The screenshot shows the AirNow Tech dashboard. At the top, there is a navigation bar with the AirNow Tech logo and menu items: Dashboard, Data, Navigator, Forecasts, Polling, Notifier, Tools, and Help. Below the navigation bar, there is a 'DART' section with sub-options: Manage, Explore, Validate, Export, and Help. Three chart types are visible: Time Series, Scatter Plot, and Fingerprint Plot. The 'Scatter Plot' is selected and displays a plot of 1,2,3-Trimethylbenzene (y-axis) versus 1,2,4-Trimethylbenzene (x-axis). The plot shows four data points. A legend at the bottom identifies the data series as 'My Sample Data Set - 1,2,4-Trimethylbenzene' and 'My Sample Data Set - 1,2,3-Trimethylbenzene'. On the left side, a 'powered by Usersnap' toolbar is visible with options: Highlight, Pen, Note, Blackout, Arrow, and Pixel Ruler. On the right side, a 'Usersnap' feedback form is open, containing fields for 'Your email address (required)' and 'Please add comments here (required)', along with 'CANCEL' and 'SEND' buttons.

1,2,4-Trimethylbenzene (X)	1,2,3-Trimethylbenzene (Y)
1.8	2.2
4.5	2.8
4.8	3.2
5.2	2.8

Important CSN Contacts

CSNsupport@sonomatech.com

<i>Role</i>	<i>Contact</i>	<i>Phone Number</i>	<i>Email</i>
EPA Project Officer	Jeff Yane	919-541-2962	yane.jeff@epa.gov
EPA Project Manager	Elizabeth Landis	919-541-2262	landis.elizabeth@epa.gov
EPA QA Officer	Jenia Tufts	919-541-0371	tufts.jenia@epa.gov
Shipping & Handling (Amec)	Justin Knoll	352-333-6621	justin.knoll@amecfw.com
Gravimetric Analysis (Amec)	Bill Barnard	352-333-6617	bill.barnard@amecfw.com
Laboratory Analysis (UCD)	Nicole Hyslop	530-754-8979	nmhyslop@ucdavis.edu
DART (STI)	Jennifer DeWinter Steve Brown	707-665-9900	jdewinter@sonomatech.com steveb@sonomatech.com

CSN Regional Representatives

R1 - Alan VanArsdale & Catie Taylor

R2 - Mazeeda Khan

R3 - Lori Hyden

R4 - Keith Harris

R5 - Scott Hamilton

R6 - Frances Verhalen

R7 - Leland Grooms

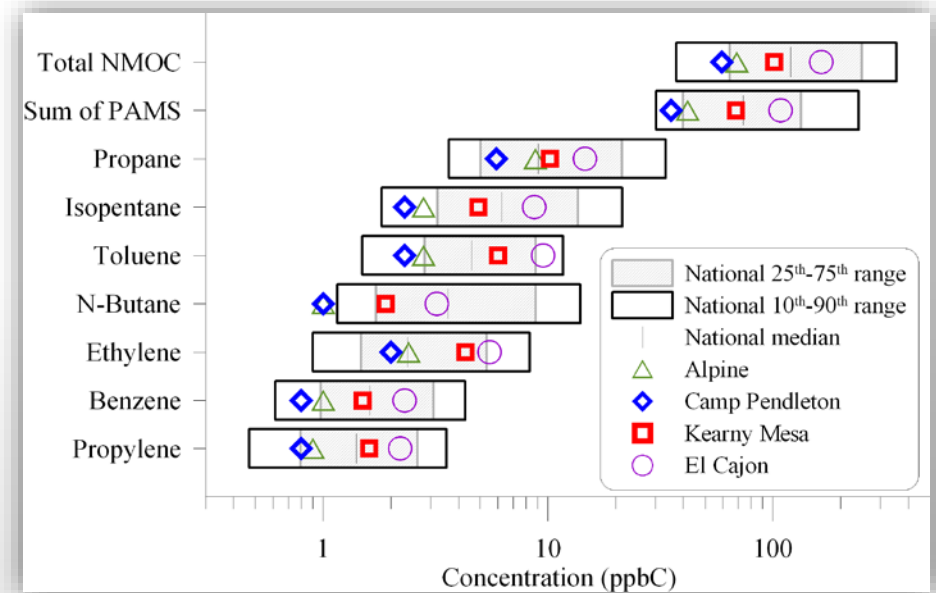
R8 - Joshua Rickard

R9 - Anna Mebust & Dena Vallano

R10 - Chris Hall & Keith Rose

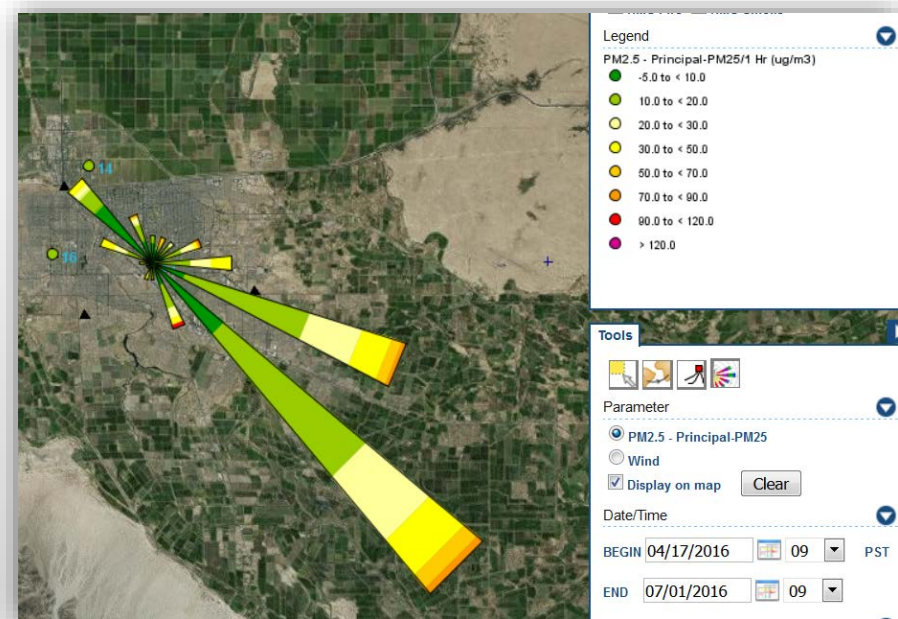
Potential New DART Features

- Interactive map for Data Mart AQS requests
- Suite of automated screening checks for air toxics, CSN data
- Compare site data to national statistics
- New analyses and plot types



Potential New DART Features

- Plot concentrations with MDL values
- Plot concentrations with annual averages
- Support for more import file formats
- Connection to AirNow-Tech features
- Pollution and wind roses



Potential CSN Features in DART

- Plot concentrations with MDL values
- Plot concentrations with annual averages
- Compare site data to national statistics
- Stacked bar and scatter plots in approval mode
- Pollution and wind roses

Acknowledgments

- Joann Rice, CSN Program Support, EPA
- National Association of Clean Air Agencies Steering Committee
- Nick Mangus and Robert Coats, AQS Support, EPA

Contact Us

Jennifer DeWinter

DART Project Manager (STI)
jdewinter@sonomatech.com

Kevin Cavender

EPA PAMS Lead
cavender.kevin@epa.gov

Steve Brown

Senior Atmospheric Scientist
sbrown@sonomatech.com

Beth Landis

EPA CSN Lead
landis.elizabeth@epa.gov

STI

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