

Benzene Fenceline Monitoring

Lessons Learned for Upcoming Compliance

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Companion Methods

EPA 325 A&B

Method 325A

- Equipment (Tubes, Tube Shelters & Sampling Kits)
- Determining Sampling locations
- Deploying & Harvesting Samples

Method 325B

- Laboratory Analysis - Thermal Desorption (TD) Gas Chromatography/Mass Spectrometry (GC/MS)
- Reporting Requirements
- Based off of TO-17

Recap of the Methods

- Continuous 14 Day samples taken for Benzene
- Samples to be analyzed by TD-GC/MS
- Action level of $9\mu\text{g}/\text{m}^3$
- Passive Sampling Tubes must be installed by **January 30, 2018**
- Data Reported Quarterly to EPA, beginning **Spring 2019**
- Data to be made available to the public in **Summer 2019**

Organize Monitoring Plan

- Create Schedule for Deployment and Harvesting
 - Avoid Holidays – Deploy on Tuesday or Wednesday
 - Allow enough time for equipment delivery to refinery
- Secure a trusted laboratory
 - Proper accreditation
 - Experienced
 - Instrumentation redundancy for running multiple projects
 - Turnaround Time for reports
- Obtain all necessary equipment



1 Shelter for each monitoring location



Minimum 3 sets of Sample Tubes



Sampling Kit

Proper Tube Handling

Cap Installation Is Critical

Passive Cap = Deployment

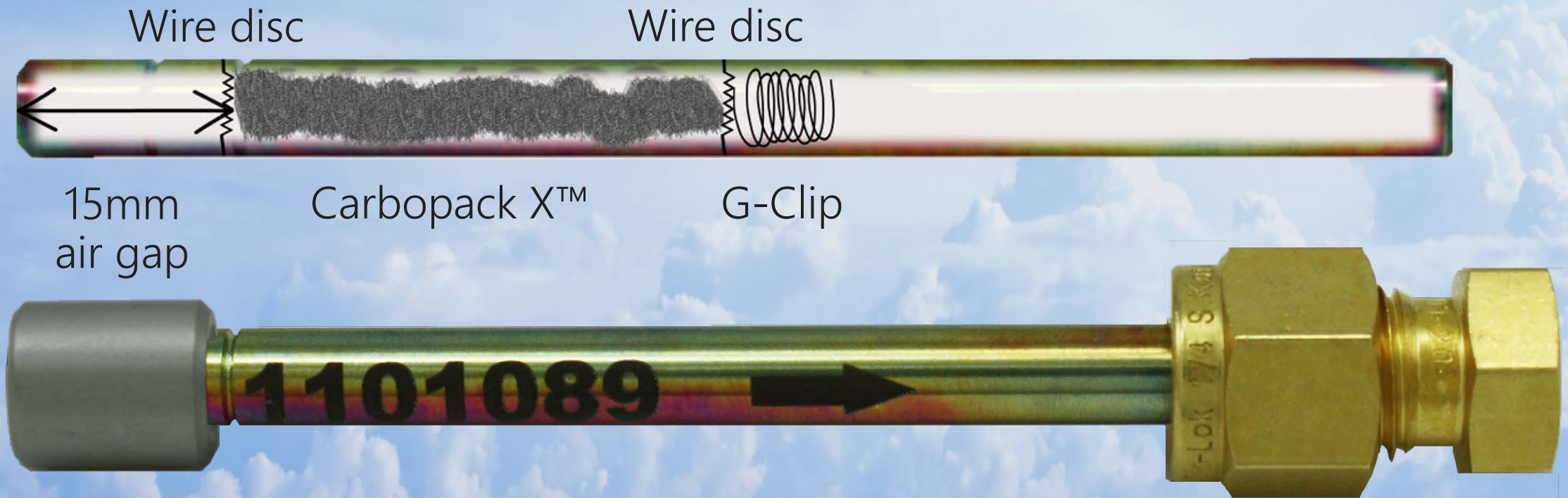


Compression Cap = Harvest



Passive Sampling Cap

Inside The Sample Tube



Compression Cap



1/4" TURN

Data Management



Minimum Refinery

Annual Amount of
Benzene Data Points
Generated

12 Field Samples +
2 Field Blanks +
2 Duplicates =
16 Data Points Every 2 Weeks

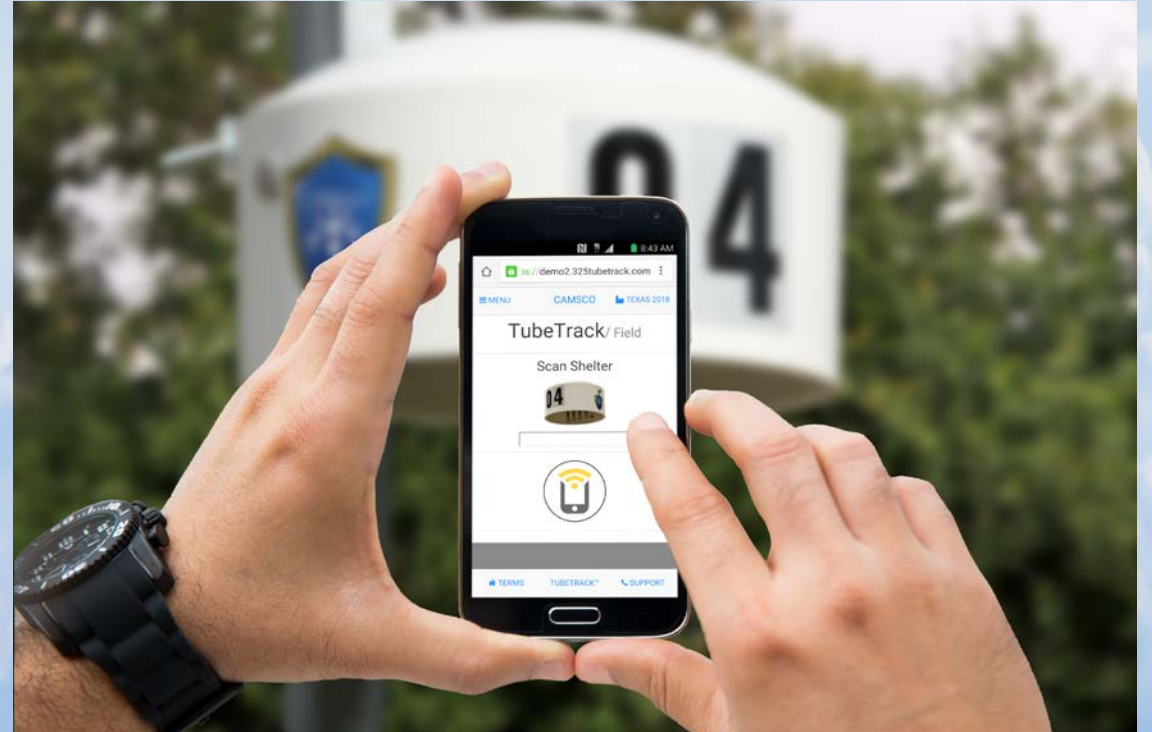
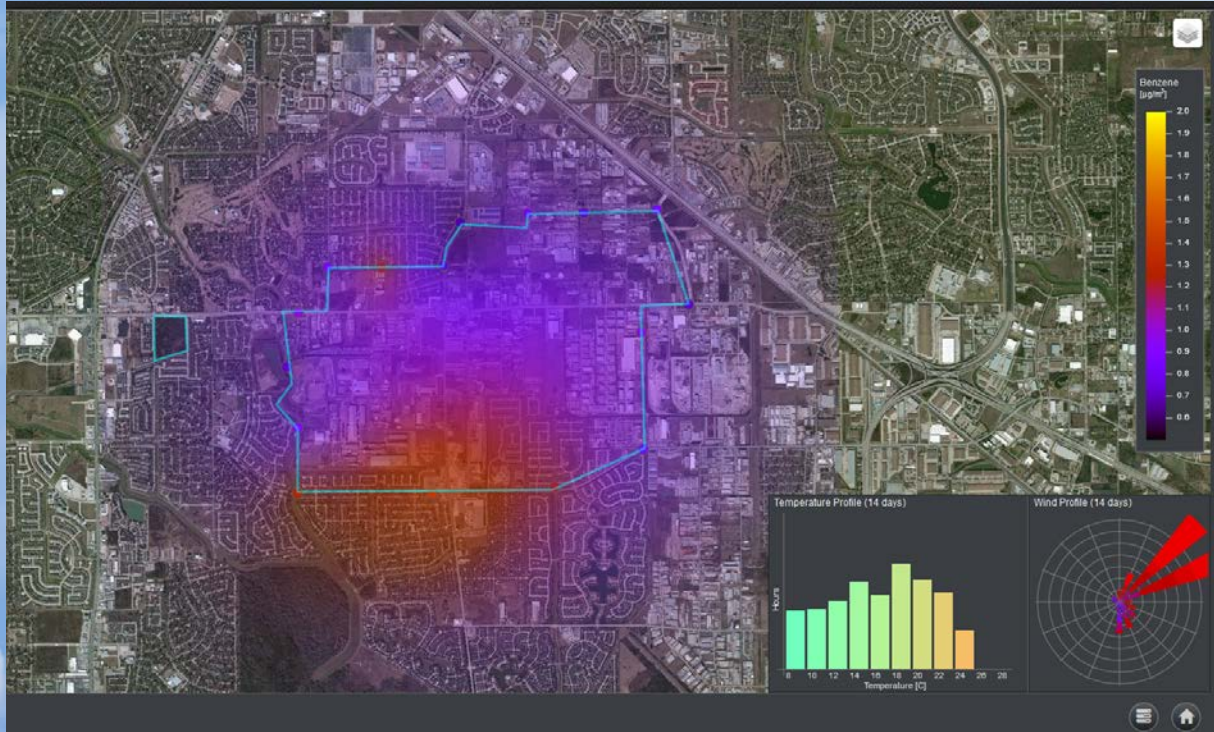
$16 \times 26 = 416$ Data Points Per Year
 $22 \times 26 = 572$ Data Points Per Year

Data Management

Benzene Level = $3.6 \mu\text{g}/\text{m}^3$

- Hourly Met Data
- Number of Sample Tube Cycles
- Sample Tube Type (Field Blank, Duplicate, etc)
- 30+ page laboratory report
- Sample Start Time & Date
- Sample End Time & Date
- Tube GPS Location

Data Management Trend



Latest Updates

- Approved Alternative Test Method
 - Benzene Method Calculation
 - Field Duplicates and Field Blanks Required

Interpreted to date: 2 Field Blanks and 1 Field Duplicate for every 10 Field Samples

Clarification: 1 Field Blank and 1 Field Duplicate for <19 Field Samples or 2 Field Duplicates for 20+

- 14 Day Sampling Period - +/- 1 Day grace period

Questions?

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