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 9µg/m³
- 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

Wire disc

15mm air gap

Carbopack X™

G-Clip
Compression Cap

1/4" TURN
Data Management

Annual Amount of Benzene Data Points Generated

- 12 Field Samples +
- 2 Field Blanks +
- 2 Duplicates =

16 Data Points Every 2 Weeks

16 x 26 = 416 Data Points Per Year

22 x 26 = 572 Data Points Per Year
Data Management

Benzene Level = 3.6 µg/m³

- 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
Current Data Management
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