All American Asphalt – Air Sampling Initiative

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South Coast AQMD Sampling Efforts

Initial Evaluation for Gaseous Air Toxics Exposure

- Concern for air toxics exposure
- 10 samples at each location
- Meteorology

Sampling Locations: Started December 2020

- Canyon View Elementary
- Northwood High School
- Eastwood Elementary (Jan, 2021)

Note: Pictures at Northwood and Canyon View locations have been swapped when compared against meeting recording

South Coast AQMD Sampling Efforts, Continued

Advantages

- Chemical speciation of air samples

- Potential identification of sources

- Established methods

- Comparable to other gaseous air toxic measurements

- Can be used to identify air toxic risk exposure

Limitations

- Does not produce data in real time

- Odor events

Sampling

- 24hr sample collected midnight-to-midnight

- Flow restricted - passivated critical orifice sampler

- 6 liter evacuated passivated stainless steel canister

Sampler apparatus at Canyon View Elementary

Laboratory Analysis

EPA Guidance Method
- TO-15*
- Gas Chromatography – Mass Spectrometry

Used in other programs
- EPA National Ambient Air Toxics Trends (NATTS)
- Multiple Air Toxics Exposure Study (MATES)

Strict QA-QC Requirements

Over 60 analytes
- GC-MS Ability to identify unknown compounds

*Determination of Volatile Organic Compounds (VOCs) in Air Collected in Specially Prepared Canisters and Analyzed by Gas Chromatography-Mass Spectrometry

Analytes

Propene	2-Butanone	2-Hexanone
Freon 12	cis-1,2-Dichloroethene	Dibromochloromethane
Chloromethane	n-Hexane	1,2-Dibromoethane
Freon 114	Chloroform	Tetrachloroethylene
Vinyl Chloride	Ethyl Acetate	Chlorobenzene
1,3-Butadiene	Tetrahydrofuran	Ethylbenzene
Ethylene Oxide	1,2-Dichloroethane	m,p-Xylene
Bromomethane	1,1,1-Trichloroethane	Bromoform
Chloroethane	Benzene	Styrene
Ethanol	Carbon Tetrachloride	o-Xylene
2-Propenal	Cyclohexane	Tetrachloroethane
Acetone	1,2-Dichloropropane	p-Ethyltoluene
Freon 11	Bromodichloromethane	1,3,5-Trimethylbenzene
Isopropanol	Trichloroethylene	1,2,4-Trimethylbenzene
1,1-Dichloroethene	1,4-Dioxane	Benzyl Chloride
Methylene Chloride	Methyl Methacrylate	1,3-Dichlorobenzene
Carbon Disulfide	n-Heptane	1,4-Dichlorobenzene
Freon 113	cis-1,3-Dichloropropene	1,2-Dichlorobenzene
trans-1,2-Dichloroethene	Methyl Isobutyl Ketone	1,2,4-Trichlorobenzene
1,1-Dichloroethane	trans-1,3-Dichloropropene	Naphthalene*
Methyl Tert Butyl Ether	1,1,2-Trichloroethane	Hexachloro-1,3-butadiene
Vinyl Acetate	Toluene	

*-Low recovery from air canister sampling

Sampling Results

Results are posted on South Coast AQMD website*

- Lab reports and data plots

To date, no significantly elevated readings

December 23rd Sample

- Methylene chloride and styrene

*http://www.aqmd.gov/home/news-events/community-investigations/air-sampling-initiative

Online Data Plots

Compounds of particular interest
- Benzene, toluene, ethylbenzene, xylenes
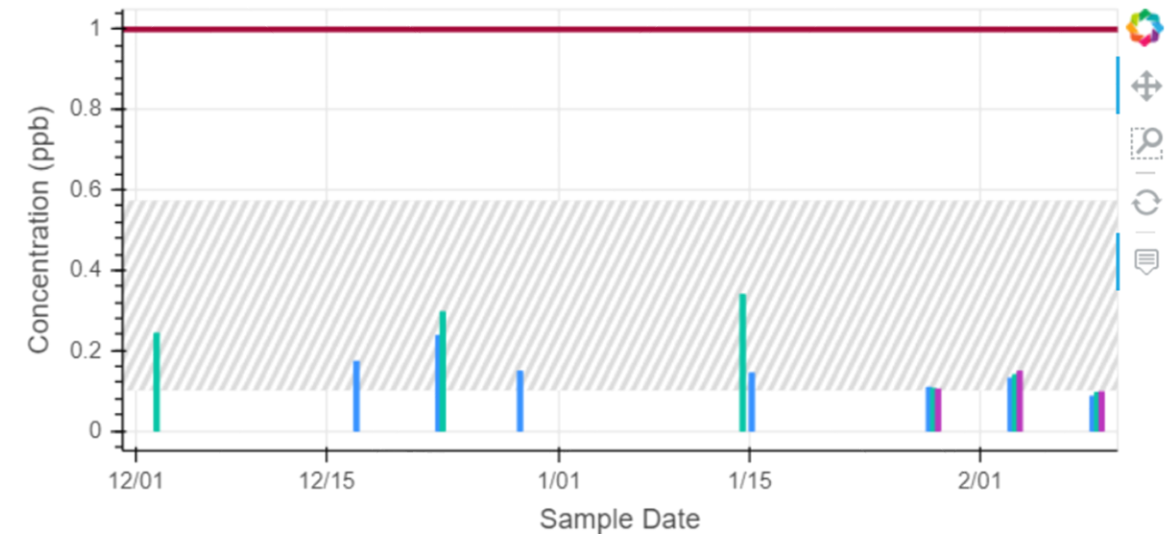- Others showing higher values or profile of asphalt emissions

Comparisons
- Range of typical levels
- OEHHA* chronic inhalation levels

Results of Air Monitoring in Communities Nearby All American Asphalt

Select compound:

[Benzene ▼]

Click entries below to hide/show data (plot will resize to fit selections).

■ Northwood ■ Canyon View ■ Eastwood

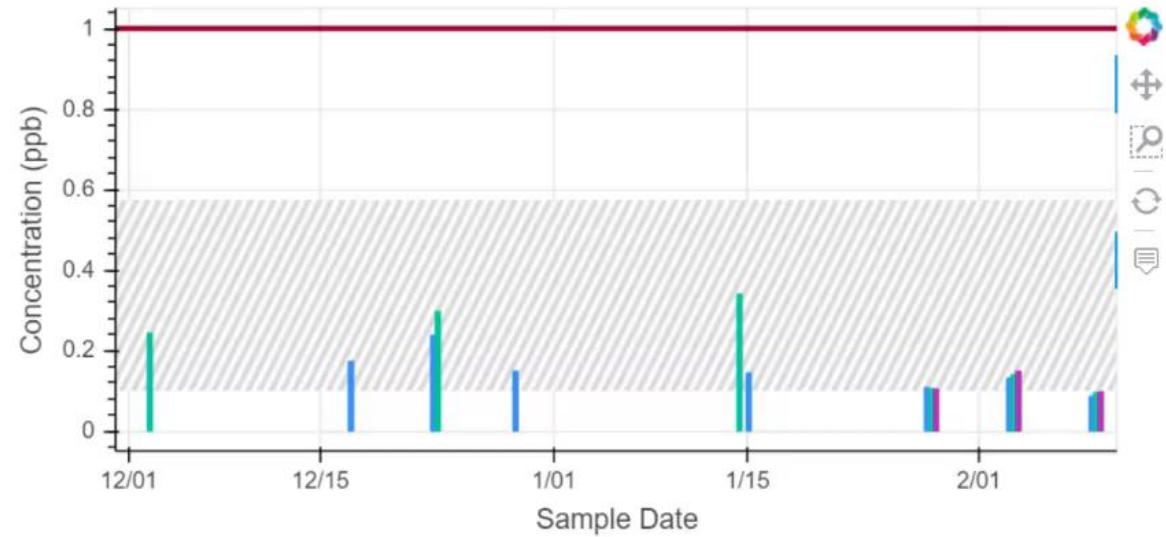▨ Typical background levels ▬ Long-term health-based exposure level

Notes:
1. Results below method detection limits are indicated by x markers.
2. Typical background levels are based on interdecile range (10-90%) of preliminary MATES V basin-wide data.

*Occupational Environmental Health Hazard Assessment

Results of Air Monitoring in Communities Nearby All American Asphalt

Compounds listed in the graphs represent some of the common air toxics from operations at asphalt facilities. The complete sampling reports can be found in Table 1 below.

Select compound:

Benzene ▼

Click entries below to hide/show data (plot will resize to fit selections).

■ Northwood ■ Canyon View ■ Eastwood

⁄⁄⁄ Typical background levels — Long-term health-based exposure level

Notes:
1. Results below method detection limits are indicated by x markers.
2. Typical background levels are based on preliminary MATES V basin-wide data.

Next Steps

- Nearing completion of initial evaluation
- Data review
- Evaluate and update sampling strategy
- Facility source test