

# TCEQ Interoffice Memorandum

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**To:** Patty Reeh, Regional Director  
Barry Kalda, Air Section Manager  
Ramiro Garcia, Border and South Central Texas Area Director

**From:** Tracie Phillips, Ph.D. *TP*  
Toxicology Division, Chief Engineer's Office

**Date:** February 16, 2011

**Subject:** Health Effects Review of 2009 Ambient Air Network Monitoring Data in Region 11, Austin

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## Conclusions

- Exposure to the reported annual average of the 84 reported volatile organic compounds (VOCs) and 14 metals reported as particulate matter less than 2.5 microns in diameter (PM<sub>2.5</sub>) for Region 11 – Austin would not be expected to cause chronic adverse health or vegetative effects.

## Background

This memorandum conveys the Toxicology Division's (TD) evaluation of ambient air sampling conducted at two monitoring sites in Region 11 – Austin during 2009. The TD evaluated summary results for VOCs collected at a 24-hour every sixth day Community Air Toxics Monitoring Network (CATMN) site located at 2600 B Webberville Road in Austin, Texas. Summary results for metals (PM<sub>2.5</sub>) were evaluated from a second monitoring site located at 12200 Lime Creek Road in Austin, Texas (Audubon Society). TCEQ Region 11 monitoring site information is presented in Table 1 along with hyperlinks to the monitoring site maps and detailed information. Lists 1 and 2, in Attachment A, give the target analytes for both monitoring sites.

**Table 1. Monitoring Sites Located in TCEQ Region 11**

City and Site Location	County	Monitor ID	Monitored Compounds
<a href="#">Austin, Webberville Road</a>	Travis	48-453-0021	VOCs
<a href="#">Austin, Audubon Society</a>	Travis	48-453-0020	PM <sub>2.5</sub> Metals

The TCEQ Field Operations Support Division (FOSD) reported the data for all chemicals evaluated in this memorandum. The data collected, 84 VOCs and 14 metals, for both monitoring sites met the data completeness objective of 75 percent data return, or at least 45 valid samples per year. Because 24-hour air samples that are collected every six days are designed to provide

representative long-term average concentrations, annual averages from 24-hour samples were evaluated for potential chronic health and vegetative concerns. Annual average concentrations of the reported VOCs and metals (PM<sub>2.5</sub>) were compared to their respective long-term Air Monitoring Comparison Values (AMCVs). More information about AMCVs is available online at: <http://www.tceq.state.tx.us/implementation/tox/AirToxics.html#amcv>.

There is an Air Pollutant Watch List (APWL) area ([APWL 1101](#)) located in Region 11. More information about this area is available in the [2009 Annual Report on APWL Areas](#) and on the [APWL public webpage](#).

## **Evaluation**

### **VOCs**

Of the 84 reported VOCs, 38 VOCs were detected above the method detection limit (MDL), which is the sample concentration that can be detected above zero and with a 99% confidence. The 2009 annual average concentrations for all VOCs were well below their respective long-term AMCVs. Therefore, adverse health effects would not be expected to occur as a result of long-term exposure to the reported levels of these chemicals at the Austin Webberville Road monitoring site.

### **Metals**

Of the 14 reported PM<sub>2.5</sub> metals, 9 metals (PM<sub>2.5</sub>) were detected above the MDL. The 2009 annual average concentrations for all metals (PM<sub>2.5</sub>) were well below their respective AMCVs. Therefore, adverse health effects would not be expected to occur as a result of long-term exposure to the reported levels of these chemicals at the Austin Audubon Society monitoring site.

If you have any questions about this evaluation, please contact me at (512) 239-2269 or [tracie.phillips@tceq.texas.gov](mailto:tracie.phillips@tceq.texas.gov).

cc (via email):

Casso, Ruben – EPA Region 6, Dallas

Prosperie, Susan – Department of State Health Services

## Attachment A

### List 1. Target VOC Analytes in Canister Samples

1,1,1-Trichloroethane	3-Methylhexane	Trichloroethylene
1,1,2,2-Tetrachloroethane	3-Methylpentane	Trichlorofluoromethane
1,1,2-Trichloroethane	4-Methyl-1-Pentene	Vinyl Chloride
1,1-Dichloroethane	Acetylene	c-2-Butene
1,1-Dichloroethylene	Benzene	c-2-Hexene
1,2,3-Trimethylbenzene	Bromomethane	c-2-Pentene
1,2,4-Trimethylbenzene	cis 1,3-Dichloropropylene	Dichlorodifluoromethane
1,2-Dibromoethane	Carbon Tetrachloride	m-Diethylbenzene
1,2-Dichloroethane	Chlorobenzene	m-Ethyltoluene
1,2-Dichloropropane	Chloroform	Methyl Chloride
1,3,5-Trimethylbenzene	Cyclohexane	n-Butane
1,3-Butadiene	Cyclopentane	n-Decane
1-Butene	Cyclopentene	n-Heptane
1-Hexene+2-Methyl-1-Pentene	Ethane	n-Hexane
1-Pentene	Ethyl Benzene	n-Nonane
2,2,4-Trimethylpentane	Ethylene	n-Octane
2,2-Dimethylbutane - Neohexane	Isobutane	n-Pentane
2,3,4-Trimethylpentane	Isopentane	n-Propylbenzene
2,3-Dimethylbutane	Isoprene	n-Undecane
2,3-Dimethylpentane	Isopropylbenzene	o-Ethyltoluene
2,4-Dimethylpentane	Methylcyclohexane	o-Xylene
2-Chloropentane	Methylcyclopentane	p-Diethylbenzene
2-Methyl-2-Butene	Methylene Chloride	p-Ethyltoluene
2-Methylheptane	Propane	p-Xylene + m-Xylene
2-Methylhexane	Propylene	t-2-Butene
2-Methylpentane - Isohexane	Styrene	t-2-Hexene
3-Methyl-1-Butene	Tetrachloroethylene	t-2-Pentene
3-Methylheptane	Toluene	trans-1-3-Dichloropropylene

### List 2. Target Metal (PM<sub>2.5</sub>) Analytes

Aluminum (PM <sub>2.5</sub> )	Chromium (PM <sub>2.5</sub> )	Nickel (PM <sub>2.5</sub> )
Antimony (PM <sub>2.5</sub> )	Cobalt (PM <sub>2.5</sub> )	Selenium (PM <sub>2.5</sub> )
Arsenic (PM <sub>2.5</sub> )	Copper (PM <sub>2.5</sub> )	Tin (PM <sub>2.5</sub> )
Barium (PM <sub>2.5</sub> )	Manganese (PM <sub>2.5</sub> )	Zinc (PM <sub>2.5</sub> )
Cadmium (PM <sub>2.5</sub> )	Molybdenum (PM <sub>2.5</sub> )	