

# TCEQ Interoffice Memorandum

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**To:** David Van Soest, Regional Director

**From:** Angela Curry, M.S. *AC*  
Toxicology Division, Office of the Executive Director

**Date:** November 10, 2017

**Subject:** Health Effects Review of 2016 Ambient Air Network Monitoring Data in Region 11, Austin

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## Conclusion

- All 24-hour and annual average concentrations of 84 volatile organic compounds (VOCs) from canister samples collected in Region 11 – Austin were below their respective Texas Commission on Environmental Quality (TCEQ) Air Monitoring Comparison Values (AMCVs) and would not be expected to cause adverse health effects or vegetation effects.

## Background

This memorandum conveys the Toxicology Division's (TD's) evaluation of ambient air sampling conducted at the Region 11 monitoring site in Austin during 2016. The TD evaluated summary results for VOCs collected at the Austin Webberville Road monitoring site on a 24-hour, every sixth-day schedule. TCEQ Region 11 monitoring site information is presented in Table 1 along with hyperlinks to detailed information regarding the monitoring site and maps. The target analytes are listed in Attachment A.

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

City and Site Location	County	Monitor ID	Monitored Compounds
<a href="#">Austin Webberville Road 2600B Webberville Rd</a>	Travis	48-453-0021	VOC <sup>a</sup>

<sup>a</sup>every sixth-day 24-hour canister

The TCEQ Monitoring Division reported the data for all chemicals evaluated in this memorandum. The data collected for the 84 VOCs at the Austin Webberville Road monitoring site met the data completeness objective of 75 percent data return, or at least 45 valid samples per year.

Twenty four-hour air samples, collected every sixth-day for a year, are designed to provide representative long-term average concentrations. In order to be able to evaluate 24-hour monitoring data more fully, the TCEQ has developed 24-hour AMCVs for specific chemicals. As such, 24-hour samples were compared to the available TCEQ 24-hour AMCVs for 1,3-butadiene, benzene, and ethylene dichloride. Short-term or peak concentrations are not necessarily captured by 24-hour samples; thus, daily concentrations have limited use in evaluating the potential for acute health effects. The TD evaluated the reported annual average concentrations from 24-hour samples for

each target analyte for potential chronic health and vegetation concerns by comparing annual averages of measured chemical concentrations to their respective long-term AMCVs. More information about AMCVs is available on the Toxicology [AMCV](#) webpage.

## **Evaluation**

The 2016 annual average concentrations of the 84 VOCs, and the 24-hour concentrations of 1,3-butadiene, benzene, and ethylene dichloride reported at the Austin Webberville Road monitoring site, were below their respective AMCVs. Therefore, adverse health or vegetation effects would not be expected to occur as a result of short- or long-term exposure to the reported levels of these chemicals.

If you have any questions about this evaluation, please contact me at (512) 239-1306 or at [angela.curry@tceq.texas.gov](mailto:angela.curry@tceq.texas.gov).

## Attachment A

### Target VOC Analytes in Canister Samples

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