

TCEQ Interoffice Memorandum

To: Joel Anderson, Regional Director

From: Ross Jones, Ph.D. *arf*
Toxicology Division, Office of the Executive Director

Date: October 22, 2014

Subject: Toxicological Evaluation of 2013 Ambient Air Network Monitoring Data
in Region 13, San Antonio

Conclusion

- Exposure to the annual average concentrations of 84 volatile organic compounds (VOCs) monitored in 2013 at the Community Air Toxics Monitoring Network (CATMN) site located at 911 Old Highway 90 West in San Antonio and lead monitored near Stinson Municipal Airport would not be expected to cause chronic adverse health or vegetation effects.

Background

The Toxicology Division (TD) reviewed ambient air sampling data collected in 2013 at the CATMN site located at 911 Old Highway 90 in TCEQ Region 13, San Antonio. The TD reviewed air samples for 84 VOCs collected for 24 hours every six days. The list of 84 target VOC and metal analytes can be found in Attachment A. The samples are designed to provide representative long-term average concentrations, thus, annual averages from the 24-hour samples were evaluated for potential chronic health and vegetation concerns. For all VOCs, the annual average concentrations were compared to their respective long-term air monitoring comparison values (AMCVs). The TCEQ Monitoring Division reported data for all VOCs evaluated in this memorandum. All data evaluated from the CATMN monitoring site met TCEQ's 75 percent annual data completeness objective and were considered in this evaluation. More information about AMCVs is available online at:

<http://www.tceq.state.tx.us/implementation/tox/AirToxics.html#amcv>.

In addition to the CATMN site, the United States Environmental Protection Agency (USEPA) initiated a special lead monitoring study in 2012 to measure potential lead impacts near airports across the US. One monitor, measuring lead in total suspended particulate (TSP) samples during 2013, collected for a 24-hour period every sixth day, is located near Stinson Municipal Airport, 1441 99th Street, in San Antonio (see Table 1). Values of detected lead ranged from 0.00121 to 0.0433 $\mu\text{g}/\text{m}^3$ with an average of 0.0158 $\mu\text{g}/\text{m}^3$.

Table 1. CATMN Site and USEPA Special Purpose Monitor Located in TCEQ Region 13

City and Site Location	County	EPA Site ID	Monitored Compounds
San Antonio , 911 Old Highway 90 West	Bexar	48-029-0677	VOCs (24-hour canister samples)
San Antonio , 1441 99 th Street	Bexar	48-029-1052	Lead (TSP) Special Purpose Monitor

Evaluation

VOCs

All 2013 annual average concentrations of the 84 VOCs evaluated at the monitoring site were below their respective long-term AMCVs. Therefore, adverse health or welfare effects would not be expected to occur as a result of long-term exposure to the reported levels of these chemicals.

Special Purpose Monitor for Monitoring of Lead near Airports

Lead, measured in TSP samples, was collected from January 1 through December 31, 2013. The level of lead detected during 2013 was below the USEPA National Ambient Air Quality Standard of 0.15 $\mu\text{g}/\text{m}^3$.

If you have any questions about this evaluation, please contact me at (512) 239-1804 or ross.jones@tceq.texas.gov.

Attachment A

List 1. Target VOC Analytes in Canister Samples

1,1,2,2-Tetrachloroethane	Bromomethane	M-/P- Xylene
1,1,2-Trichloroethane	Carbon Tetrachloride	Methyl Chloroform (1,1,1-Trichloroethane)
1,1-Dichloroethane	Chlorobenzene	Methylcyclohexane
1,1-Dichloroethylene	Chloroform	Methylcyclopentane
1,2,3-Trimethylbenzene	Chloromethane (Methyl Chloride)	N-Butane
1,2,4-Trimethylbenzene	Cis 1,3-Dichloropropene	N-Decane
1,2-Dichloropropane	Cis-2-Butene	N-Heptane
1,3,5-Trimethylbenzene	Cis-2-Hexene	N-Hexane
1,3-Butadiene	Cis-2-Pentene	N-Nonane
1-Butene	Cyclohexane	N-Octane
1-Hexene+2-Methyl-1-Pentene	Cyclopentane	N-Pentane
1-Pentene	Cyclopentene	N-Propylbenzene
2,2,4-Trimethylpentane	Dichlorodifluoromethane	N-Undecane
2,2-Dimethylbutane (Neohexane)	Dichloromethane (Methylene Chloride)	O-Ethyltoluene
2,3,4-Trimethylpentane	Ethane	O-Xylene
2,3-Dimethylbutane	Ethylbenzene	P-Diethylbenzene
2,3-Dimethylpentane	Ethylene	P-Ethyltoluene
2,4-Dimethylpentane	Ethylene Dibromide (1,2-Dibromoethane)	Propane
2-Chloropentane	Ethylene Dichloride (1,2-Dichloroethane)	Propylene
2-Methyl-2-Butene	Isobutane	Styrene
2-Methylheptane	Isopentane (2-Methylbutane)	Tetrachloroethylene
2-Methylhexane	Isoprene	Toluene
2-Methylpentane (Isohexane)	Isopropylbenzene (Cumene)	Trans-1-3-Dichloropropylene
3-Methyl-1-Butene	M-Diethylbenzene	Trans-2-Butene
3-Methylheptane	M-Ethyltoluene	Trans-2-Hexene
3-Methylhexane		Trans-2-Pentene
3-Methylpentane		Trichloroethylene
4-Methyl-1-Pentene		Trichlorofluoromethane
Acetylene		Vinyl Chloride
Benzene		

List 2. Target Metal Analytes

Lead (TSP)