

TCEQ Interoffice Memorandum

To: Jamie Garza, Regional Director
David Ramirez, Border and Permian Basin Area Director
Tara Capobianco, Air Pollutant Watch List Coordinator

From: Tiffany Bredfeldt, Ph.D. TB
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Date: July 19, 2013

Subject: Health Effects Review of 2012 Ambient Air Network Monitoring Data in Region 16, Laredo

Conclusion

- Reported 24-hour concentrations of VOCs and metals would not be expected to cause short-term health effect, vegetation damage, or nuisance odors.
- Reported annual concentrations of VOCs would not be expected to cause long-term adverse human health or vegetation effects.

Background

This memorandum conveys the Toxicology Division's (TD) evaluation of ambient air sampling conducted at two monitoring sites in Region 16-Laredo during 2012. TCEQ Region 16 monitoring site information is presented in Table 1 along with hyperlinks to detailed information regarding the monitoring sites and their maps. Lists 1-2, which can be found in Attachment A, display the target analytes for monitoring sites. The TD reviewed air monitoring summary results from VOC canister samples collected on a 24-hour every sixth day schedule at Community Air Toxics Monitoring Network (CATMN) monitors and 24-hour metals samples (TSP- metals).

The TCEQ Monitoring Division reported the data for all chemicals evaluated in this memorandum. Data discussed in this evaluation for the Laredo Bridge monitoring site (84 VOCs from canister samples) met the data completeness objective of 75 percent data return or at least 45 valid samples per year. Since 24-hour samples collected using the every sixth day schedule are designed to provide a representative long-term, ambient concentration for chemicals of concern, annual averages from all 24-hour samples were evaluated using appropriate long-term Air Monitoring Comparison Values (AMCVs) for the potential to adversely impact long-term human health and vegetation effects. Thus, annual average concentrations of VOCs (collected via canister sample), were compared to their respective long-term AMCVs. Additional information regarding the derivation and application of AMCVs is available [online](#).

Table 1. Monitoring Sites Located in TCEQ Region 16

City and Site Location	County	Monitor ID	Monitored Compounds
700 Zargosa Street (Laredo Bridge)	Webb	48-479-0017	VOCs ^a
2020 Vidaurri Avenue (Laredo Vidaurri)	Webb	48-141-0044	Metals ^b

^a24-hour canister

^bTSP (lead and arsenic)

Evaluation

VOCs

The 2012 annual average concentrations for all 84 VOCs collected as 24-hour canister samples at the Laredo Bridge monitoring site were well below their respective short- and long-term AMCVs. Thus, adverse human 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 at this monitoring site.

Metals

Concentrations of lead and arsenic (TSP) were below their respective AMCVs. Reported concentrations for two metals (TSP) measured at the Laredo Vidaurri monitoring site did not meet data completeness objectives. Thus, the concentrations for these metals were not evaluated from a long-term health perspective.

If you have any questions or comments regarding this evaluation, please feel free to contact me at (512) 239-1799 or tiffany.bredfeldt@tceq.texas.gov.

Attachment A

List 1. Target VOC Analytes in Canister Samples

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

List 2. Target Metal Analytes

Arsenic (TSP)

Lead (TSP)