

TCEQ Interoffice Memorandum

To: Jamie Garza, Regional Director
Arnaldo Lanese, Air Section Manager
David Ramirez, Border and Perimian Basin Area Director

From: Tiffany Bredfeldt, Ph.D. TB
Toxicology Division, Office of the Executive Director

Date: October 31, 2012

Subject: Health Effects Review of 2011 Ambient Air Network Monitoring Data in
Region 16, Laredo

Conclusion

- 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 2011. 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 1-3, 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, 24-hour metals samples (TSP), and 24-hour PAH or semivolatile organic compound (SVOC) samples.

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	VOCs ^a , SVOC, Metals (TSP)

^a24-hour canister

Evaluation

VOCs

The 2011 annual average concentrations for all 84 VOCs collected as 24-hour canister samples at the Laredo Bridge monitoring site were well below their respective long-term AMCVs. Thus, adverse human health or vegetation effects would not be expected to occur as a result of long-term exposure to the reported levels of these chemicals at this monitoring site.

Because the Laredo Vidaurri canister, formerly known as Laredo Border, was deactivated, moved and reactivated, only three quarters of the data are available for 2011. Thus, data collected at that the Laredo Vidaurri site were not evaluated from a long-term health perspective because they did not meet data completeness objectives.

Metals

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.

PAHs

The reported annual average concentrations for each of the 16 SVOCs reported at the Laredo Vidaurri monitoring site in 2011 were not evaluated from a long-term health perspective due to not meeting data completeness objectives.

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.

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

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

List 2. Target Metal Analytes

Arsenic (TSP)

Lead (TSP)

List 3. Target PAH Analytes

Acenaphthene	Benzo (ghi) perylene	Indeno (1,2,3-cd) pyrene
Acenaphthylene	Benzo (k) fluoranthene	Naphthalene
Anthracene	Chrysene	Phenanthrene
Benzo (a) anthracene	Dibenzo (a,h) anthracene	Pyrene
Benzo (a) pyrene	Fluoranthene	
Benzo (b) fluoranthene	Fluorene	

