

TCEQ Interoffice Memorandum

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From: Carla Kinslow, Ph.D. 
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Date: June 20, 2011

Subject: Health Effects Review of 2010 Ambient Air Network Monitoring Data in
Region 16, Laredo

Conclusions

- During 2010, ambient air monitoring was conducted for volatile organic compounds (VOCs), semi-volatile compound (SVOCs) [including polycyclic aromatic hydrocarbons (PAHs)], and lead and arsenic in total suspended particulate (TSP) at the Zaragosa Street (Laredo Bridge) and West End Washington Street monitoring sites. Exposure to the reported 2010 annual average concentrations of these chemicals would not be expected to cause chronic adverse human health or vegetation effects.

Background

This memorandum conveys the Toxicology Division's (TD's) evaluation of ambient air sampling conducted at two Community Air Toxics Monitoring Network (CATMN) sites in Laredo during 2010. Table 1 contains information regarding the two sites located in Texas Commission on Environmental Quality (TCEQ) Region 16, as well as hyperlinks to maps and additional detailed information about each site. The TCEQ Field Operations Support Division reported the data for all chemicals evaluated in this memorandum. The TD reviewed air monitoring summary results for 84 VOCs from 24-hour canister samples collected every sixth day, 16 PAHs/SVOCs from 24-hour samples collected every sixth day, and two speciated metals from 24-hour TSP samples collected every sixth day at the West End Washington Street (border) site in Laredo. In addition, the TD reviewed air monitoring summary results for 84 VOCs from 24-hour canister samples collected every sixth day at the Zaragosa Street (Laredo Bridge) site. All data collected for both monitoring sites met the data completeness objective of 75 percent data return. For a complete list of all examined chemicals, please see Attachment A. This memorandum evaluates air monitoring data on a chemical-by-chemical basis.

Because 24-hour air samples are designed to provide representative long-term average concentrations, annual averages from 24-hour samples were evaluated for potential chronic health concerns. Short-term or peak concentrations are not captured by 24-hour samples; therefore, daily maximum concentrations have limited use in evaluating the potential for acute health effects. For all VOCs, PAHs/SVOCs, and speciated TSP metals (except lead), annual average concentrations 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>. Lead values are compared to the National Ambient Air Quality Standards (NAAQS; <http://www.epa.gov/air/criteria.html>)

Table 1. Monitoring Sites Located in TCEQ Region 16

City and Site Location	County	EPA Site ID	Monitored Compounds
Laredo, West End Washington Street (border)	Webb	48-479-0016	VOCs, PAHs, Metals (TSP)
Laredo, 700 Zaragosa Street, Bridge	Webb	48-479-0017	VOCs

Evaluation

West End – Washington Street Site (border)

From 1996 to 2009 antimony had been measured at the Washington Street Site due to concern regarding air-born contaminants from AI Divestitures. During that time, the annual average concentration of this metal was never reported at a level that would result in health concerns. Thus antimony was not reported at this site after 2009.

The 2010 annual average concentrations of all detected VOCs, PAHs, and metals were below their respective long-term AMCVs or NAAQS and would not be expected to pose chronic adverse human health or vegetation concerns.

700 Zaragosa Street – Bridge Site

VOCs

The 2010 annual average concentrations of all detected VOCs were below their respective long-term AMCVs and would not be expected to pose chronic adverse human health or vegetation concerns.

If you have any questions regarding the contents of this review, please do not hesitate to contact me at (713-422-8976) or via email at Carla.Kinslow@tceq.texas.gov.

cc (via email):

Casso, Ruben- EPA Region 6, Dallas

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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 (Neohexane)	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)

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	

