


Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Richard Garcia, Director, R13
Christine Bergren, Air Section Manager,
R13
Ramiro Garcia, Border and South Texas
Area Director

Date: December 9, 2009

From: Allison Jenkins, M.P.H. 
Toxicology Division, Chief Engineer's Office

Subject: Health Effects Review of 2008 Ambient Air Network Monitoring in Region 13–San Antonio

Key Finding

Annual reported volatile organic compounds (VOCs) in 2008 were monitored at levels below the long-term appropriate comparison values and would not be expected to cause long-term adverse health effects.

Background

This memorandum conveys the toxicological evaluation of ambient air sampling conducted at the network monitoring site in Region 13–San Antonio during 2008 (Figure 1). The Toxicology Division reviewed summary results for 84 monitored VOCs from 24-hour canister samples collected every sixth day from the Community Air Toxics Monitoring Network (CATMN).

The CATMN site is located at 911 Old Highway 90 West. Information about this site is listed in Table 1. Table 2 is a list of the target analytes that were evaluated for this review. Air samples are collected for twenty-four-hours every six days and are designed to provide representative long-term average concentrations to evaluate potential chronic health concerns. For all VOCs, the annual average concentrations were compared to their respective appropriate comparison values.

The TCEQ Monitoring Operations Division reported the data for all chemicals evaluated in this memorandum. The target analyte list of 95 VOCs was changed in the third quarter of 2008. Eleven oxygenated compounds were dropped from the list due to water issues in the laboratory analysis. Therefore, those compounds did not meet the data completeness objective of 75 percent data return, or 45 valid samples per year. Those 11 compounds are identified by asterisk on the target analyte table (Table 2). All other data collected (84 VOCs) met the data completeness objective of 75 percent data return.

Table 1: Monitoring Site Information for TCEQ Region 13

County	City and Site Location	EPA Site ID	Monitored Compounds
Bexar	San Antonio, 911 Old Highway 90 West	48-029-0677	VOCs

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Evaluation

Of the 84 reported VOCs, 48 were not detected above the limit of quantitation (LOQ). Reported annual concentrations of the 36 detected VOCs were less than their respective long-term appropriate comparison values and are not a health concern. Overall, we do not anticipate any long-term health concerns from monitored levels of VOCs in Region 13-San Antonio.

If you have any questions regarding this review, please do not hesitate to contact me at (512) 239-0656 or email me at ajenkins@tceq.state.tx.us.

cc (via email):

Casso, Ruben – EPA Region 6

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Table 2: Target Analytes for Community Air Toxic Monitoring Network

CATMN VOCs		
1,1,1-Trichloroethane	3-hexanone*	Toluene
1,1,1,2-Tetrachloroethane	3-pentanone*	Trichloroethylene
1,1,2-Trichloroethane	4-Methyl-1-Pentene	Trichlorofluoromethane
1,1-Dichloroethane	Acetylene	Vinyl Chloride
1,1-Dichloroethylene	Benzene	c-2-Butene
1,2,3-Trimethylbenzene	Bromomethane	c-2-Hexene
1,2,4-Trimethylbenzene	Butyl Acetate*	c-2-Pentene
1,2-Dibromoethane	Cis-1,3-Dichloropropylene	Dichlorodifluoromethane
1,2-Dichloroethane	Carbon Tetrachloride	Isobutyraldehyde*
1,2-Dichloropropane	Chlorobenzene	m-Diethylbenzene
1,3,5-Trimethylbenzene	Chloroform	m-Ethyltoluene
1,3-Butadiene	Cyclohexane	Methyl Chloride
1-Butene	Cyclopentane	n-Butane
1-Hexene+2-methyl-1-pentene	Cyclopentene	n-Decane
1-Pentene	Ethane	n-Heptane
2,2,4-Trimethylpentane	Ethyl Acetate*	n-Hexane
2,2-Dimethylbutane - Neohexane	Ethylbenzene	n-Nonane
2,3,4-Trimethylpentane	Ethylene	n-Octane
2,3-Dimethylbutane	Isobutane	n-Pentane
2,3-Dimethylpentane	Isopentane	n-Propyl Acetate*
2,4-Dimethylpentane	Isoprene	n-Propylbenzene
2-Butanone*	Isopropylbenzene	n-Undecane
2-Chloropentane	Methyl Butyl Ketone (MBK)*	o-Ethyltoluene
2-Methyl-2-Butene	Methyl Isobutyl Ketone*	o-Xylene
2-Methylheptane	Methyl t-Butyl ether (MTBE)*	p-Diethylbenzene
2-Methylhexane	Methylcyclohexane	p-Ethyltoluene
2-Methylpentane - Isohexane	Methylcyclopentane	p-Xylene + m-Xylene
2-methyl-3-hexanone*	Methylene Chloride	t-2-Butene
3-Methyl-1-Butene	Propane	t-2-Hexene
3-Methylheptane	Propylene	t-2-Pentene
3-Methylhexane	Styrene	trans-1,3-Dichloropropylene
3-Methylpentane	Tetrachloroethylene - Perchloroethylene	

* Data completeness objective of 75 percent data return was not met.

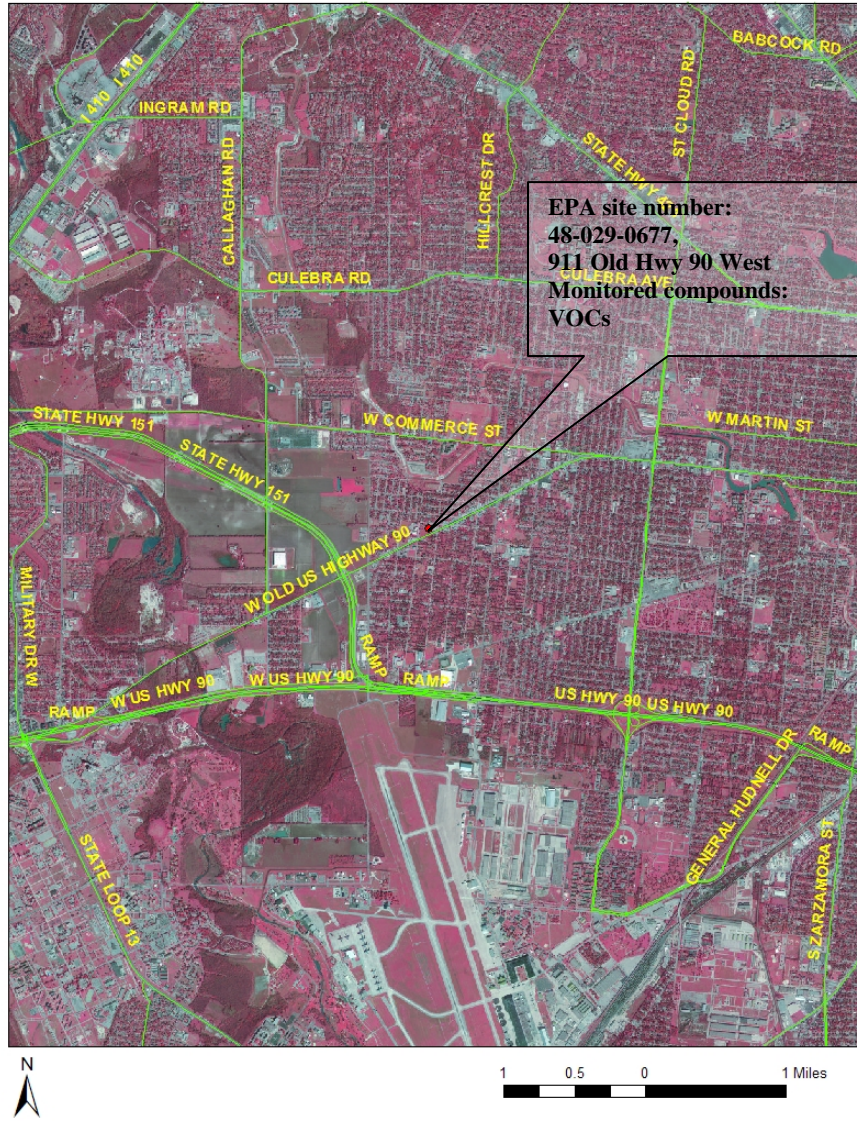


Figure 1. Location of San Antonio-Old Hwy. 90 CATMN monitor