

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Jed Barker, Regional Director, R7
Alice Cone, Air Section Manager, R7
Brent Wade, Area Director

Date: August 18, 2008

From: Valerie E. Meyers, Ph.D.
Toxicology Section, Chief Engineer's Office

Subject: Health Effects Review of the 2007 Ambient Air Network Monitoring Sites in Region 7–Midland

Key Findings

All reported one-hour concentrations of monitored volatile organic compounds (VOCs) at the Odessa-Gonzales and Odessa-Hays monitoring sites were less than their respective short-term comparison values. Therefore, we would not expect acute adverse health effects or nuisance odor conditions.

Reported annual concentrations of all monitored VOCs at the Odessa-Gonzales and Odessa-Hays monitoring sites were at levels below their respective long-term 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 two monitoring network sites in Region 7–Midland during 2007. The Toxicology Section (TS) reviewed air monitoring summary results for 48 VOCs from 40-minute samples collected each hour by automated gas chromatographs (autoGCs) at the Odessa-Gonzales and Odessa-Hays sites from January 1- December 31, 2007. Table 1 contains information regarding the two autoGC sites in Region 7-Midland. Table 2 contains a list of the target analytes that were evaluated in this review. Figures 1 and 2 are street level maps indicating the specific locations of each of the two monitoring sites in Region 7-Midland.

The TCEQ Monitoring Operations Division reported the data for all chemicals evaluated. Data collected at both the monitoring sites in Region 7 met TCEQ's data completeness objective of 75 percent for all but 3 of the 48 VOCs (2-methyl-2-butene, acetylene, and undecane). The TS compared the measured concentrations of the remaining 45 VOCs to their appropriate comparison values.

Table 1: Monitoring Site Information for TCEQ Region 7–Midland

County	City and Site Location	EPA Site ID	Monitored Compounds
Ector	Odessa-Hays, Barrett and Monahans Streets	48-135-0003	VOCs
Ector	Odessa-Gonzales, 2700 Disney	48-135-1014	VOCs

Evaluation

One-Hour Data (Odessa-Gonzales and Odessa-Hays)

Reported one-hour concentrations of the 48 VOCs evaluated at the Odessa-Gonzales and Odessa-Hays monitoring sites were less than their respective short-term comparison values. Exposure to the reported one-hour concentrations of the VOCs evaluated would not be expected to cause short-term adverse human health effects or nuisance odor conditions.

Annual Average Data

Annual average concentrations of the 48 VOCs evaluated were below their respective long-term comparison values. Exposure to the reported annual concentrations of the VOCs evaluated at these two locations would not be expected to cause long-term adverse health effects.

If you have any questions regarding this evaluation, please do not hesitate to contact me at (512) 239-1336 or email me at vmeyers@tceq.state.tx.us.

Table 2: List of Monitored VOCs (autoGC)

1,2,3-Trimethylbenzene	Isopentane
1,2,4-Trimethylbenzene	Isoprene
1,3,5-Trimethylbenzene	Isopropyl Benzene – Cumene
1,3-Butadiene	Methylcyclohexane
1-Butene	Methylcyclopentane
1-Pentene	Propane
2,2,4-Trimethylpentane	Propylene
2,2-Dimethylbutane	Styrene
2,3,4-Trimethylpentane	Toluene
2,3-Dimethylpentane	c-2-Butene
2,4-Dimethylpentane	c-2-Pentene
2-methyl-2-butene	n-Butane
2-Methylheptane	n-Decane
2-Methylhexane	n-Heptane
3-Methylheptane	n-Hexane
3-Methylhexane	n-Nonane
Acetylene	n-Octane
Benzene	n-Pentane
Cyclohexane	n-Propylbenzene
Cyclopentane	n-undecane
Ethane	o-Xylene
Ethyl Benzene	p-Xylene + m-Xylene
Ethylene	t-2-Butene
Isobutane	t-2-Pentene



Figure 1: Location of the VOC Monitoring on Disney Street (Odessa-Gonzales)



Figure 2: Location of the VOC Monitoring at Barrett and Monahans Street (Odessa-Hays)

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cc: (via email)

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