

TCEQ Interoffice Memorandum

To: Jaime Garza, Regional Director, R15

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Date: January 29, 2026

Subject: Health Effects Review of 2024 Ambient Air Network Monitoring Data in Region 15, Harlingen

Conclusions

- All measured 24-hour, and annual average concentrations of the 84 volatile organic compounds (VOCs) monitored were below their respective Texas Commission on Environmental Quality (TCEQ) air monitoring comparison values (AMCVs) and would not be expected to cause adverse health or vegetation effects.
- All measured 24-hour and annual average concentrations of 16 speciated metals particulate matter less than or equal to 2.5 microns in aerodynamic diameter (PM_{2.5}) monitored were below their respective TCEQ AMCVs and would not be expected to cause adverse health or welfare effects.

Background

Ambient air sampling data collected at three monitoring network sites in Region 15, Harlingen, in 2024 were evaluated by the Toxicology, Risk Assessment, and Research Division (TD). TCEQ Region 15 monitoring sites information is presented in Table 1, along with a hyperlink to the monitoring sites map and detailed information. The TD reviewed air monitoring summary results for VOCs and metals from 24-hour canister samples collected every sixth-day. For a complete list of all analyzed chemicals, please see List 1 and 2 in Attachment A. The TCEQ Monitoring Division reported the data for all chemicals evaluated in this memorandum. All data collected met data completeness objective of 75 percent data return, except for all metal data reported at Isla Blanca State Park Road, which was activated 10/21/2024. The Mission monitoring site metal sampler was activated on October 11, 2023, and deactivated on October 28, 2024, as a 12-month Air Quality Division special study site that became deactivated at study conclusion. Because short-term or peak concentrations are not necessarily captured by 24-hour samples, daily concentrations have limited use in evaluating the potential for acute health effects. Rather, 24-hour air samples collected every-sixth day for a year are intended to provide representative long-term average concentrations. Therefore, the TD evaluated the reported annual average concentrations from 24-hour samples for each target analyte for potential chronic health and vegetation concerns by comparing measured chemical

concentrations to long-term AMCVs, or for lead, to the applicable comparison level. To enable evaluation of 24-hour monitoring data more fully, TCEQ has also developed 24-hour acute AMCVs for specific chemicals. As such, 24-hour samples were compared to the available TCEQ 24-hour AMCVs for 1,3-butadiene; 2,2-dimethylbutane; 2,3-dimethylbutane; 2-methylpentane; 3-methylpentane; aluminum; arsenic; benzene; carbon tetrachloride; cadmium; chromium; cobalt; ethylene dibromide; ethylene dichloride; manganese; nickel; n-hexane; and vanadium. More information about AMCVs is available online at: <https://www.tceq.texas.gov/toxicology/amcv/about>.

Table 1. Monitoring Sites Located in TCEQ Region 15

Site Name and Location	County	EPA Site ID	Monitored Compounds
Brownsville East 6th Street 85 East 6th Street	Cameron	48-061-1098	VOCs (24-hour canister)
Mission^a 2300 North Glasscock	Hidalgo	48-215-0043	VOCs (24-hour canister), Metals (PM _{2.5})
Isla Blanca State Park Road^b 33174 State Park Road 100	Cameron	48-061-2004	Metals (PM _{2.5})

^aMetals activated 10/11/23 - 10/28/24 (12-month Air Quality Division special study site, deactivated at study conclusion on 10/28/2024).

^b Metals activated 10/21/2024 for Internal study requested by TCEQ Air Quality Division.

Evaluation

VOCs

At the Brownsville and Mission sites, all measured 24-hour and annual average concentrations of the monitored 84 VOCs were below their AMCVs and would not be expected to cause adverse chronic health or welfare effects.

Metals

Reported 24-hour and annual average concentrations for all 16 speciated metals (PM_{2.5}) measured at the Mission monitoring site were below their respective AMCVs and would not be considered of concern to human health.

If you have any questions regarding the contents of this review, please do not hesitate to contact Nnamdi Nnoli via email at nnamdi.nnoli@tceq.texas.gov or by phone at (512) 239-1785.

Attachment A

List 1. Target VOC Analytes in Canister Samples

1,1,2,2-Tetrachloroethane	Acetylene	Trichloroethylene
1,1,2-Trichloroethane	Benzene	Trichlorofluoromethane
1,1-Dichloroethane	Bromomethane	Vinyl Chloride
1,1-Dichloroethylene	Carbon Tetrachloride	cis-1,3-Dichloropropene
1,2,3-Trimethylbenzene	Chlorobenzene	cis-2-Butene
1,2,4-Trimethylbenzene	Chloroform	cis-2-Hexene
1,2-Dichloropropane	Chloromethane	cis-2-Pentene
1,3,5-Trimethylbenzene	Cyclohexane	m-Diethylbenzene
1,3-Butadiene	Cyclopentane	m-Ethyl toluene
1-Butene	Cyclopentene	m/p Xylene
1-Hexene & 2-Methyl-1-Pentene	Dichlorodifluoromethane	n-Butane
1-Pentene	Dichloromethane	n-Decane
2,2,4-Trimethylpentane	Ethane	n-Heptane
2,2-Dimethylbutane	Ethylbenzene	n-Hexane
2,3,4-Trimethylpentane	Ethylene	n-Nonane
2,3-Dimethylbutane	Ethylene Dibromide	n-Octane
2,3-Dimethylpentane	Ethylene Dichloride	n-Pentane
2,4-Dimethylpentane	Isobutane	n-Propyl benzene
2-Chloropentane	Isopentane	n-Undecane
2-Methyl-2-Butene	Isoprene	o-Ethyl toluene
2-Methylheptane	Isopropyl benzene	o-Xylene
2-Methylhexane	Methyl Chloroform	p-Diethylbenzene
2-Methylpentane	Methylcyclohexane	p-Ethyl toluene
3-Methyl-1-Butene	Methyl cyclopentane	trans-1,3-Dichloropropene
3-Methylheptane	Propane	trans-2-Butene
3-Methylhexane	Propylene	trans-2-Hexene
3-Methylpentane	Styrene	trans-2-Pentene
4-Methyl-1-Pentene	Tetrachloroethylene	
	Toluene	

List 2. Target Metal Analytes

Aluminum (PM_{2.5})
Antimony (PM_{2.5})
Arsenic (PM_{2.5})
Barium (PM_{2.5})
Cadmium (PM_{2.5})
Chromium (PM_{2.5})

Cobalt (PM_{2.5})
Copper (PM_{2.5})
Lead (PM_{2.5})
Manganese (PM_{2.5})
Molybdenum (PM_{2.5})
Nickel (PM_{2.5})

Selenium (PM_{2.5})
Tin (PM_{2.5})
Vanadium (PM_{2.5})
Zinc (PM_{2.5})