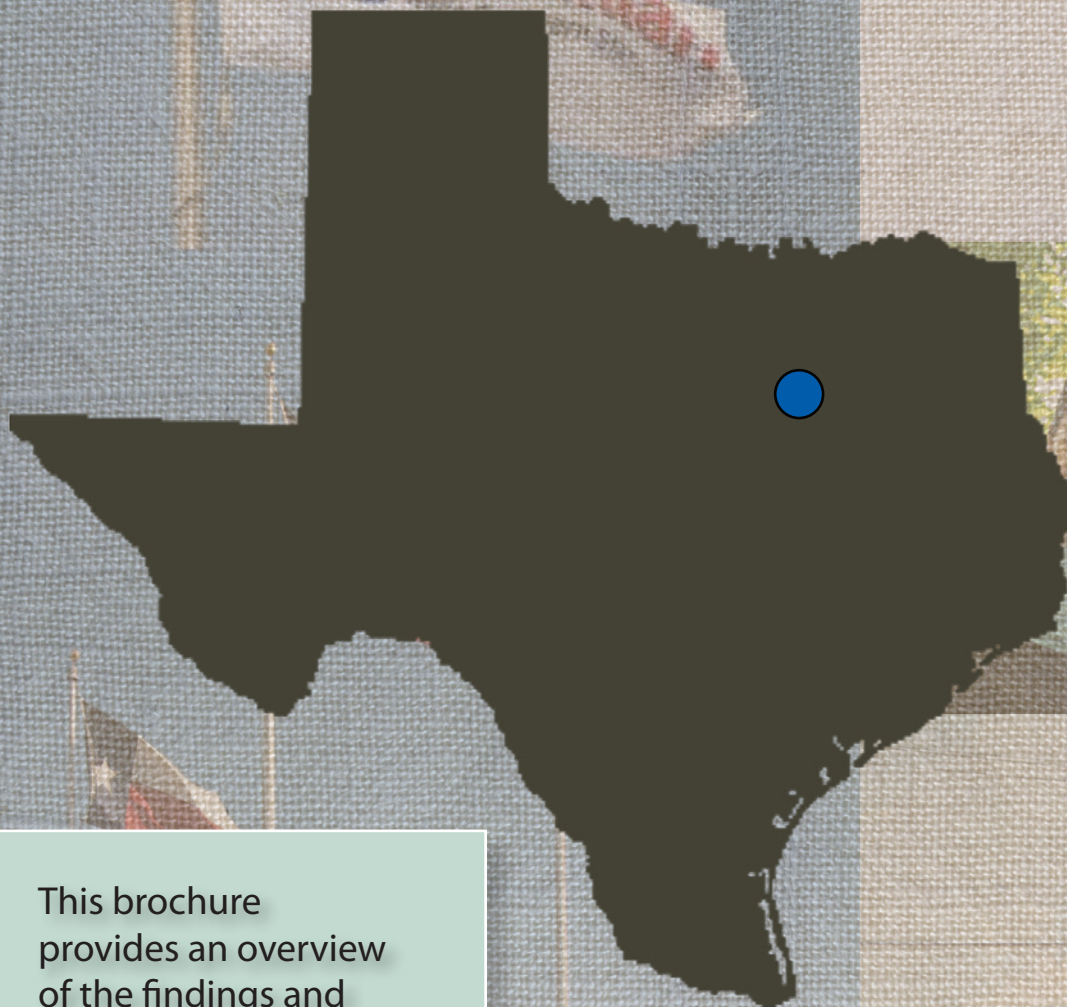


Assessing Exposures to Organic Compounds (VOCs) and Inorganic Pollutants in Air *as part of the Midlothian Area Air Quality Petition Response* Midlothian, Ellis County, Texas



This brochure provides an overview of the findings and recommendations from one of the six health consultations prepared for the Midlothian site, Midlothian, Texas.

Agency for Toxic Substances and Disease Registry
Division of Community Health Investigations



Midlothian Site Midlothian, Texas





Introduction

The Agency for Toxic Substances and Disease Registry (ATSDR) is a federal public health agency working with the Texas Department of State Health Services (DSHS). ATSDR and DSHS want to find out if pollutants released into the air from three cement plants and a steel mill could cause health problems in people and animals that live in Midlothian. This summary addresses measurements of metals and Volatile Organic Compounds (VOCs) in air and summarizes one of the health consultations prepared by ATSDR.



The Bottom Line

- Sensitive populations may have been affected in the past and may still be affected by pollutants from the facilities.
- Midlothian residents are not at a higher risk for cancer than the rest of Ellis County or the state of Texas.
- Most healthy adults are not at risk for breathing problems caused by current and past levels of air pollutants.

	In our study, we didn't find a connection between pollutants in the air in the neighborhoods near the industrial plants and higher risks of cancer.
	In the past, chemical releases from industrial plants in Midlothian could have caused breathing problems for some sensitive individuals, especially young children, older adults, and people who have heart and lung problems.
	Currently, levels of these pollutants released into the air are much lower than in the past as a result of upgraded equipment at the industrial plants. However, it's possible that infrequent high releases of these pollutants could still affect certain sensitive people, especially young children, older adults, and people who have heart and lung problems.
	Because no data were collected near the area, ATSDR can't say if possible health problems are caused by releases from burning hazardous waste at Ash Grove.



Green means we don't believe there is a problem.



Yellow means we don't have enough information to know for sure if there was or will be a problem.

Community Concerns

Since 2005, ATSDR and DSHS have been keeping a record of community concerns regarding the Midlothian facilities. The agencies have learned about these concerns through:

- Door-to-door surveys of residents.
- Community surveys.
- Public meetings.
- Public availability sessions (an informal, drop-by meeting where community members can meet one-on-one with ATSDR and other public health officials to discuss health and site-related concerns).

Midlothian Site Midlothian, Texas

Specifically, community members raised concerns about:

- Whether or not enough information has been collected about air in the Midlothian area.
- If information collected from the existing air monitors is accurate.
- How long residents may have come in contact with industrial releases.
- How coming into contact with these pollutants could harm certain populations, such as pregnant women, babies, children, older adults, and people who have health problems.
- How coming into contact with releases from companies burning hazardous waste for fuel could have harmed their health.



ATSDR is in the process of releasing a series of six reports for the Midlothian community. Each of these reports focuses on different issues and community concerns.

Questions And Answers About This Health Consultation

What did ATSDR do?

1. Air sampling has happened many times and in many places in Midlothian since 1981. Residents were concerned because some pollutants have been released by the facilities but not measured in the air. ATSDR decided to “model” these pollutants to see how much of each pollutant could have been in the air and whether these pollutants could have caused health problems in Midlothian residents. In this report, ATSDR looked at two kinds of pollutants measured and modeled in air. These pollutants are:
 - **Volatile organic compounds (VOCs)**, which evaporate easily into air. In Midlothian, VOCs are collected by trapping air in containers and measuring how much of a particular pollutant is in the container.
 - **Inorganic materials** (mostly metals), which don’t evaporate easily into the air. These materials are usually found in fine dust in the air. Inorganics were measured by pulling air through a filter. The filter traps the dust particles. We reviewed how much of each inorganic was trapped on the filter.
2. To complete the health consultation, ATSDR looked at air information collected over a period of 30 years from 16 locations in the Midlothian community. We assessed both cancer and non-cancer risk for people exposed to individual pollutants.
3. ATSDR also compared levels of pollutants found in Midlothian’s air with levels reported in scientific research as affecting people and animals. That helped us understand how breathing the pollutants in the air might affect people’s health.

What is air modeling?

Air modeling is a tool used to understand how pollutants move through the air. Models can be used to estimate pollution levels in the past and present. They may also tell us where pollution might move in the future.

Why do we need models?

Sometimes, we want to learn about past pollution. Models can help us estimate past pollution levels. Other times, we only have samples for some of the places we want to learn about. Models can also help us estimate pollution levels in areas where we didn’t have samples. Models may also help us decide where to collect new samples.

What did ATSDR find?

- **We found no increased risk of cancer in the Midlothian community.** The cancer risks in Midlothian were not different than those for Ellis County or the state of Texas.

Midlothian Site Midlothian, Texas

- **Past emissions may have caused non-cancer health effects in area residents.** In the past, coming in contact with pollutants from the industrial plants, especially sulfuric acid aerosols, may have irritated the heart and breathing systems of some people especially young children, older adults, and people (even if they just work or go to school in the area and are not residents they could be affected).
- **Air concentrations of facility emitted pollutants have decreased substantially over time.** Today, the releases of pollutants from the facilities of concern are much lower than in the past because the industrial plants have reengineered and upgraded their processes and pollution controls to reduce the levels of pollutants released into the air. However, it's possible that their emissions may still affect some sensitive populations including those with breathing problems from time to time.
- **Modeled concentrations of the ten highest emitted pollutants were not high enough to make people sick.** When we modeled a worst case situation (highest emissions for all plants at the same time, even though they didn't happen at the same time), sulfuric acid aerosol estimates were slightly higher than air guidance values. When actual emissions were modeled for a given year for each facility, air guidance values were not exceeded.
- We don't know what pollutants may have been released during the burning of hazardous waste at Ash Grove because we don't have information about the air from that time.

What are sulfuric acid aerosols?

Most sulfuric acid in air is formed when coal, oil, and gas are burned. Contact with sulfuric acid aerosols can cause breathing problems and eye irritation. These problems usually go away quickly when a person is no longer in contact with the pollutant. People who already have breathing, heart, and lung illnesses are more likely to be affected by sulfuric acid aerosols.

What steps can I take to make sure that my family and I are safe?

If you're worried about contact with sulfuric acid aerosols or any other pollutant, we recommend that you see your doctor to talk about your concerns.

Here are some ways you can protect yourself from coming in contact with sulfuric acid aerosols.

- If it's possible, stay indoors when air quality is poor. You can find out the air quality forecast from your local news source or by visiting a website such as <http://www.wunderground.com/maps/us/2xAirQuality.html>.
- Use an air conditioner or a dehumidifier in your home. This will take water out of the air, which also helps remove pollutants floating in the air.

What will happen next?

To make sure the community is safe, ATSDR recommends that:

- Community-focused air investigations continue; and
- The Texas Commission on Environmental Quality (TCEQ) consider adding sulfuric acid aerosols to their air sampling investigations.

ATSDR will also meet with residents to share and answer questions about the findings in this health consultation and any future health consultations.

What will the other health consultations cover? ATSDR will:

- Investigate the impact of industrial facilities on community health and health outcomes in people and animals in our other health consultations for Midlothian.
- Evaluate animal issues in Midlothian.
- Look at pollutants in other parts of the Midlothian environment, like water or soil.
- Look at the public health impact of criteria air pollutants and hydrogen sulfide.

Where can I learn more?

To get more information about ATSDR's public health activities in Midlothian, visit our website at www.atsdr.cdc.gov/sites/midlothian/.