



Assessing the Public Health Implications of the Criteria
(NAAQS) Air Pollutants and Hydrogen Sulfide
Health Consultation
Midlothian, Texas
April 2016

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

Midlothian Site, Midlothian, Texas

The Agency for Toxic Substances and Disease Registry (ATSDR), with support from the Texas Department of State Health Services (DSHS) is conducting an extensive review of environmental health concerns raised by community members in Midlothian, Texas. The goal of this review is to determine if chemical releases from local industrial facilities could affect or have affected the health of people and animals in the area.

This factsheet summarizes ATSDR's findings from the project: assessing the public health implications of exposures to the National Ambient Air Quality Standard (NAAQS) pollutants (particulate matter, ozone, sulfur dioxide, nitrogen oxides, carbon monoxide, and lead) and hydrogen sulfide (H₂S).



Background of the Site

Midlothian is in Ellis County, Texas, about 30 miles south of the Dallas/Fort Worth area. Midlothian is home to large-scale industrial operations including three cement plants and a steel mill. Operations at these four facilities have changed over the years including a range of production levels and use of different fuels in the cement kilns. Community members asked ATSDR and DSHS to investigate whether chemical releases from these industries might make them or their animals sick.

Community Concerns

Starting in 2005, ATSDR and DSHS have been collecting and documenting community concerns regarding the Midlothian facilities. The agencies have learned of these concerns through various means. The concerns expressed by community members have addressed many topics, including:

- Impact on human health
- Impact on animal health
- Adequacy and reliability of ambient air monitoring data collected in the Midlothian area



Exposure pathway analysis looks at the link between environmental contaminant releases and local populations. To be complete, an exposure pathway must have an exposure source, an environmental medium in which the chemical moves, a point of exposure, a route of exposure, and a person or persons who could be exposed.

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Findings

ATSDR released the Assessing the Public Health Implications of the Criteria NAAQS Air Pollutants and Hydrogen Sulfide Health Consultation for public comment on November 16, 2012. At the request of the community, ATSDR also conducted a peer review of this health consultation. The following are ATSDR's findings from the consultation.

ATSDR found that harmful effects are possible for certain air pollutants in the past.

- Breathing air contaminated with sulfur dioxide in Cement Valley for short periods of time from 1997 to late 2008 could have harmed the health of sensitive persons, but not the general public.
 - Examples of sensitive populations are people with asthma (especially while exercising).
 - Sulfur dioxide levels from 1997 to late 2008 were above the current EPA standard but not above the standard in place at that time.
- Based on available data, breathing air contaminated with PM_{2.5} (particulate matter with aerodynamic diameter of 2.5 microns or less) in Midlothian for one year or more is not likely to have harmed people's health.
 - However, ATSDR is uncertain about downwind PM_{2.5} exposures of Holcim because of a lack of data and information.
- The sources of PM_{2.5} in Midlothian are both local and regional emissions from mobile and industrial sources.
- Sufficient information exists to warrant concern about exposure of sensitive persons to multiple air pollutants, especially in the past in Cement Valley when sulfur dioxide levels were higher and while they were exercising.
- Exposure to lead in air between 1993 and 1998 could have harmed the health of children who lived or frequently played in an area just north of the Gerdau Ameristeel fence line.
 - Some uncertainty exists with these findings given that we do not know what the lead levels in air were downwind of the Gerdau monitor (in more populated areas) and we do not know if small children were exposed at all in this sparsely populated area of Cement Valley.
 - However, we do know that the closest possible receptors were about 450-500 feet west of the Gerdau Monitor (where elevated levels of lead were detected).
 - Since 1998, lead levels in this area have fallen below harmful levels.
 - In other areas of Midlothian, available data indicates that lead levels in air, currently or in the past, have occurred below EPA's current standard

ATSDR found that certain air pollutants may have caused harmful effects in both the past and present.

- Short-term elevations above the PM_{2.5} standards have been relatively infrequent but could result in harmful cardiopulmonary effects, especially in sensitive persons, but not the general public.
- Breathing ozone for short periods since monitoring began in 1997 could increase the likelihood of harmful respiratory effects, especially for active children and adults and people with respiratory diseases such as asthma.

Public participation has been an essential part of this process.

- ATSDR scientists provided an overview of the draft health consultation in a public meeting and answered questions about the findings of the report on December 6, 2012.
- Residents had the opportunity to review the documents and ask questions during the public comment period. The public comment period was open from November 16, 2012 through January 13, 2013.

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People in some parts of Midlothian are not believed to experience harmful effects from current exposures to specific pollutants.

- Reductions in SO₂ levels in Cement Valley have occurred since late 2008 resulting in exposures that are not expected to be harmful to anyone.
- Sulfur dioxide emitted from Ash Grove should be substantially reduced as the Ash Grove facility has been upgraded with new kiln and emission control technology in 2014 which would reduce the likelihood of any off-site exposures of concern in the future—these SO₂ emission reductions need to be verified.
- ATSDR cannot determine if past SO₂ exposures downwind of Ash Grove may have resulted in harmful effects.
 - Although computer modeling of SO₂ emissions from Ash Grove indicated that persons who resided or recreated near the Ash Grove facility were not exposed to harmful levels of SO₂, there is too much uncertainty to make a definitive conclusion.
- People in Midlothian are not believed to have experienced harmful effects from current or past exposures to carbon monoxide, nitrogen dioxide, and hydrogen sulfide.



ATSDR makes recommendations so that local, state, or federal agencies can act to protect public health.

- Actions have been taken by TCEQ, TXI, and Ash Grove to reduce SO₂ emissions in Midlothian. ATSDR recommends that TCEQ evaluate the 2015 annual emissions from Ash Grove to verify the reductions.
- ATSDR recommends TCEQ evaluate and reduce emissions and exposures, as needed to PM_{2.5} and continue efforts to reduce regional ozone exposures.



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/