



AIR MONITORING...NORCO

A newsletter to keep you updated on the ambient air monitoring program in Norco, Louisiana

What is Air Monitoring . . . Norco?

Air Monitoring . . . Norco is a community project that will establish an ambient air quality monitoring program in Norco, Louisiana. Ambient air is the air breathed over the course of the year. The program is being conducted as a Beneficial Environmental Project (BEP) under the guidance of the Louisiana Department of Environmental Quality (LDEQ). It is also an integral part of the Good Neighbor Initiative (GNI), an effort by Shell and Motiva to improve the quality of life in Norco and create an environment where both the community and the companies can grow and prosper for years to come.

Shell and Motiva are working with the community, LDEQ and technical experts from Tulane and Southern to address community concerns about Norco's air.

In March 2002, a Technical Team and a Communications Team were formed to work on the program. Members of these teams include staff from LDEQ, independent, non-paid, third-party technical experts from Tulane and Southern universities, community residents and Shell and Motiva employees.

The **Technical Team** is charged with determining the location of the air monitors, frequency of monitoring and the list of compounds to monitor. They are also responsible for helping local residents and the Community Industry Panel select a vendor to install the air monitors and collect the samples, as well as identify a third-party laboratory to analyze the data.

The **Communications Team** also helped determine air monitor locations. This team is charged with delivering timely, accurate and meaningful air quality information and data to the community. The team will share ambient air monitoring information with the community in a number of ways, including newsletters and community meetings.

How does the ambient air monitoring project work?

The data will be collected in two phases:

Phase 1- Assessment and Siting

Phase 2- Long-term Monitor Sampling

Phase 1 data collection has been completed and was designed to determine the number and locations of Phase 2 monitoring sites and which compounds to monitor. It was not designed to give a complete view of the quality of air in Norco, rather it was conducted to help design the long-term Phase 2 effort. Specifically, the Phase 1 study focused on gathering information needed to develop a list of compounds to be monitored during Phase 2 and determine the number and locations of the longer-term Phase 2 monitoring sites.

Phase 1 involved four basic steps:

1. Identify compounds in the air.
2. Determine if there were significant differences in amounts measured at different monitoring locations.
3. Compare the measured levels with government air standards.
4. Compare the measured levels with similar data from elsewhere in Louisiana and other states.

Community members along with LDEQ and third party technical experts selected an independent contractor to conduct the Phase 1 study.

During Phase 1, measuring for 148 different compounds was conducted at six locations in the Norco community. The 148 compounds monitored are typical of industrial, transportation and natural emissions.

Phase 1 began September 23, 2002 and ended November 17, 2002, during which a total of ten samples were collected at each monitoring site.

What did Phase 1 tell us?

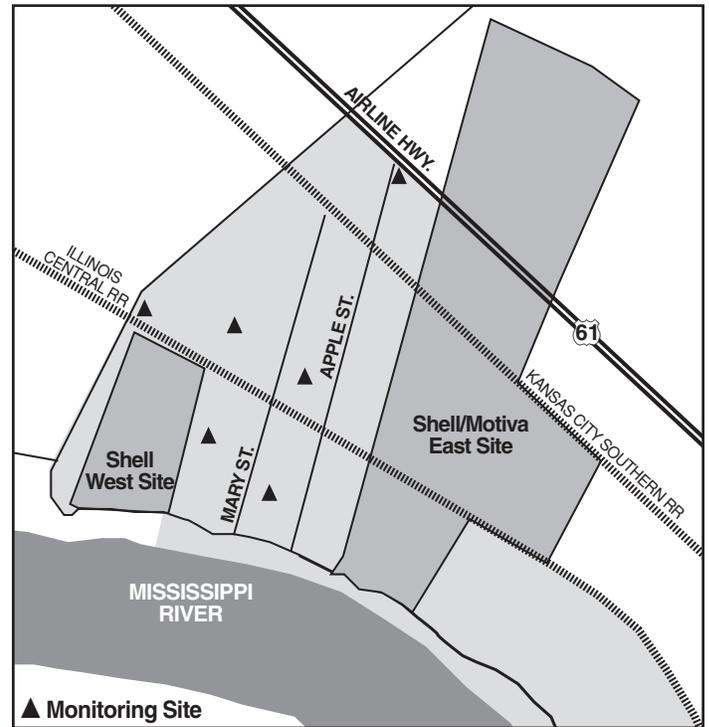
The Phase 1 study showed that no compounds were detected at levels above LDEQ ambient air standards.

Most Abundant Compounds

Of all the compounds that were measured during Phase 1, 20 compounds were repeatedly found at all the monitoring sites. Ethane and propane had the highest levels at each of the six sampling sites. Ethane and propane are flammable, colorless non-toxic gases that are often used for industrial and residential purposes. The 20 compounds repeatedly found at all monitoring sites were:

Ethane	Propane
n-Butane	Ethylene
Acetaldehyde	Propylene
Acetone	Isobutane
Ethanol	n-Pentane
Toluene	2-Propanol
Acetylene	Chloromethane
Dichlorodifluoromethane	Isohexane
Isobutene + 1-Butene	Benzene
MEK	Chlorodifluoromethane

Norco Community Ambient Air Monitoring Study Site Locations (Phase 1)

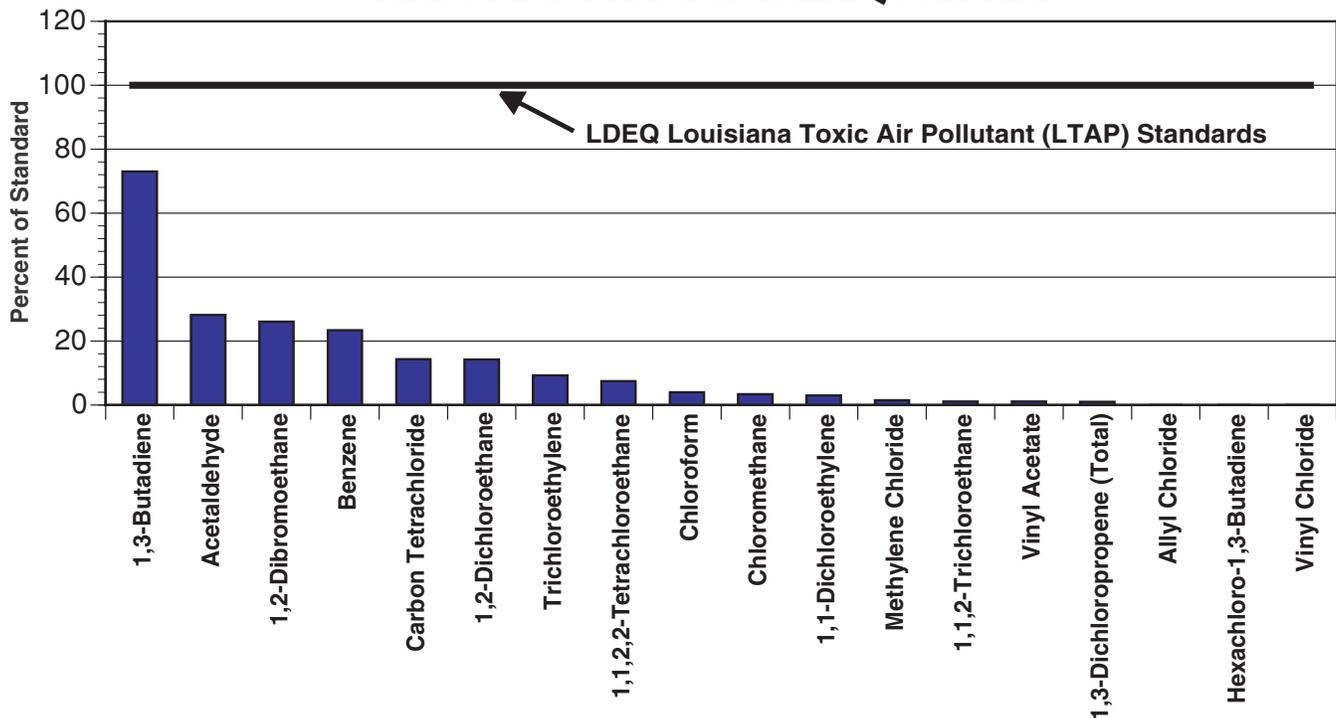


Comparison of Measured Results with LDEQ Standards

The LDEQ has set ambient air standards for 38 of the compounds that were measured during the Phase 1 study. These standards are protective of human health and are very conservative. Louisiana is only one of two states that has ambient

air quality results. The graph below is a statistical comparison of the Phase 1 results to LDEQ ambient air standards. *Data indicates that no Phase 1 compounds are expected to exceed LDEQ standards.*

Phase 1 Data Was Below LDEQ Standards

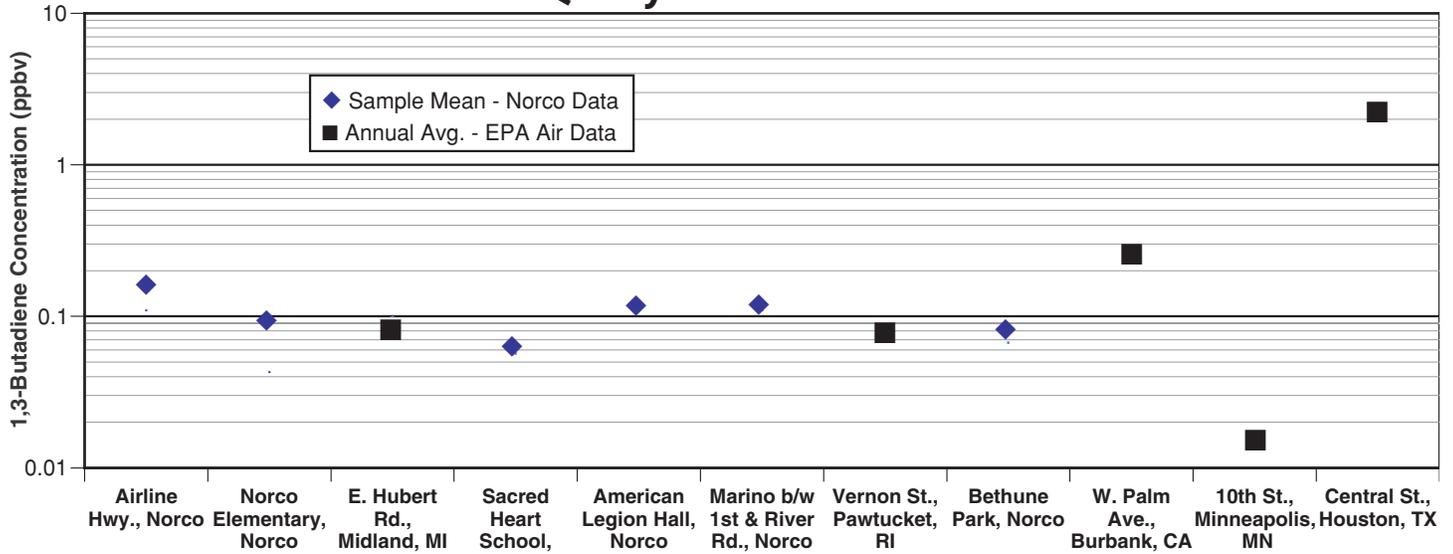


Comparison with Measurement Data for Other Cities

The average levels of most of the more abundant compounds measured in Norco during the Phase 1 study were in the same general range as the levels

measured elsewhere in Louisiana and other states by LDEQ and other state agencies. An example of one of these compounds—butadiene—is shown below.

Norco's Air Quality is Similar to Other Cities*



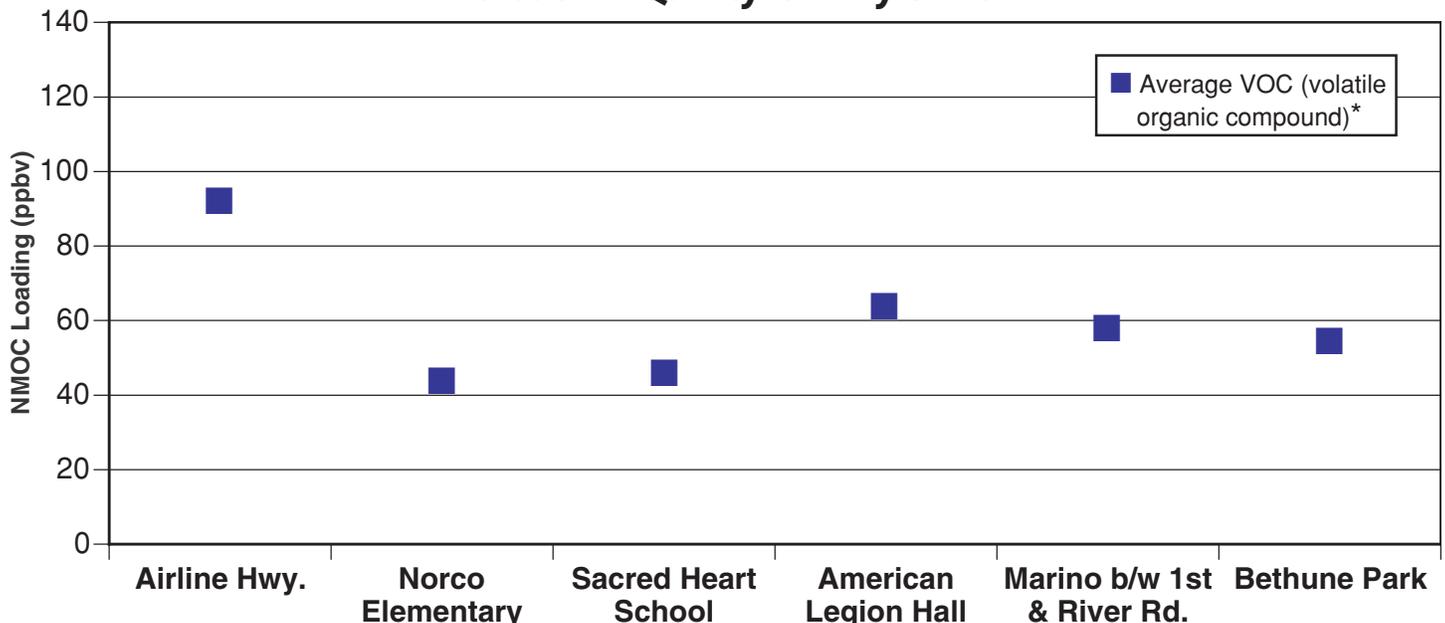
*These are short-term averages compared to annual averages. Visit our website for detailed information.

Differences in Measured Compound Levels by Location

On average, the total compound levels were highest at the Airline Highway monitoring site and lowest at the Norco Elementary and Sacred Heart School sites. The Airline Highway monitoring site showed higher levels of three compounds – ethane, ethylene, and propane. These

three compounds accounted for most difference between the total levels at that site and the levels measured at the other five sites. *With the exception of the Airline Highway monitoring site, the levels are fairly uniform throughout the Norco community.*

Norco's Air Quality is Fairly Uniform



*VOC is the sum of all compounds measured during Phase 1.

Q&A

Q What is the air monitoring program all about?

A The program is designed to collect data important for evaluating long-term air quality in Norco. This information will be available to researchers and the public on a regular basis for study and analysis. If the monitoring discovers problem areas, Shell and Motiva are committed to finding and eliminating the source. Monitoring will not be able to address effects from short-term events, nor will it provide any information on odors. At this time, no other companies in the area are participating in the program.

Q Who will be taking the samples from the air monitors and analyzing the results?

A URS, an independent third party consultant will continue to collect the air samples and analyze the results.

Q How do samples from the air monitors reflect what is happening at my house?

A Phase 1 looked for differences in air quality based on geography. With the exception of Airline Highway, the study found no air quality differences throughout Norco. During Phase 2, a long-term study of air quality in Norco will be conducted.

Q How safe are the ambient air quality standards?

A Ambient air standards are very conservative. Even if air samples are slightly above standards, the standards are still protective of human health. Louisiana is only one of two states that has ambient air quality standards, and our numbers are very good.

Q If you find something, will you be able to also identify its source?

A If the monitoring stations find levels of compounds that are of concern, we're going to find the source and work to drive those levels down. If we are not the source, Shell and Motiva are committed to assist in resolving any issues arising from the air quality program.

Where do I get more information?

For more information on *Air Monitoring . . . Norco*, please contact Dwayne LaGrange at 504-465-7180, the Tulane Info-Line at 504-585-6074 or Walt Crow (URS) at 713-914-6688. Project newsletters will be mailed to Norco residents, and community meetings will be held to answer questions and address concerns on a regular basis. For technical information and complete reports, please visit www.shellus.com/norco or www.norcorefinery.com.

Q Is it possible that a release could not be caught on the monitors?

A Yes, it is possible that a release might not be caught on the monitors. To address this concern, event "triggers" have been added to the monitors. The site's emergency response teams also have the ability to catch air samples and monitor releases should they occur.

Q If I have questions, where do I get those answered, and how are you going to share sampling results with the community?

A Shell and Motiva are working with the community-based Communications Team to determine that, but outreach will include things such as small group meetings, newsletters, elementary school programs, video and web site postings. We will make ambient air quality monitoring a regular part of Shell and Motiva's communications outreach. We also realize there will be questions about community health related to air quality, so the Tulane University School of Public Health will be conducting outreach in Norco on those issues.

Q If initial sampling indicates air quality is normal, why do we still need to monitor?

A The Phase 1 study was done over a relatively short time frame. Although the conditions were representative of an entire year, more data over a longer period will give us a better picture of the air quality in Norco.

Q What happens next?

A The Phase 2 sampling plan involves at least two more years of ambient air sampling in a central location, probably around the American Legion Hall. There will be three supplemental monitors that will gather additional data for at least one more year. They will be located near Airline Highway, at the Bethune School site and near River Road on Marino Street. Based on the Phase 1 study showing that the air was reasonably uniform across Norco, the supplemental locations will be sampled less frequently. In addition, all Phase 2 study locations will have the capability to remotely activate a special "event" sample if a release or upset occurs.