

# MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

## 2016 Ambient Air Sampling

### Pascagoula, Mississippi



COMMUNITY NOTICE

September 2016

#### INTRODUCTION

The Mississippi Department of Environmental Quality (MDEQ) intends to collect ambient air samples from a site located in a Pascagoula, MS neighborhood where residents have expressed concerns about being exposed to elevated levels of toxic emission concentrations. By collecting ambient air data in close proximity to both the neighborhood and the potential emission sources located in the industrial park, we should be able to determine how the data compares to previous monitoring efforts that were completed in the area and determine if there are any conditions that would warrant a more extensive study. The data obtained from these samples should also provide MDEQ with information concerning whether or not there might be any significant VOC HAP concentrations in the area and identify what might be the possible source(s) of such emissions which might require further investigation for regulation compliance and/or process improvements.



*24 hour sampling allows MDEQ to better assess typical exposure conditions and work closely with the community to find out more about local air quality concerns.*

#### OUTDOOR AIR SAMPLING

For this study, MDEQ will collect five (5) 24-hour VOC samples from a location in the neighborhood west of the Bayou Casotte Industrial Park in Pascagoula, Mississippi. Three of the five 24-hour samples will be taken on days where the weather forecast indicates conditions should be ideal for taking a sample where emissions from the industrial complex could have an impact on air quality in the community. In addition to these samples, the MDEQ will also collect two (2) instantaneous-samples in an attempt to capture ambient air concentrations that exist during a period where the neighborhood is experiencing a condition of concern. These samples will be taken at times reported by a neighborhood representative when extraordinary odorous or other concerning conditions are being experienced. At the time an episode sample is taken, MDEQ staff will also deploy one of the five 24-hour ambient air sample collection runs. Once a sample is collected, the canisters will be sent to a contracted laboratory for analysis. It typically takes up to six weeks to get the results from each sample.

#### TWO (2) INSTANTANEOUS SAMPLES

There are two basic modes of canister sampling: grab and integrated. A grab sample is taken over a short interval to provide a point-in-time sample concentration, while an integrated sample is taken over a specified duration (i.e., 24- hours). MDEQ will be using both types of sampling methods when a condition is reported by the neighborhood representative. The instantaneous samples will be obtained to determine whether safe air quality levels are being exceeded during these conditions of concern. At the time each episode sample is taken, MDEQ staff will also collect a 24-hour ambient air sample.

## ENVIRONMENTAL RESULTS: OUTCOMES, OUTPUTS, PERFORMANCE MEASURES

The ambient air samples will be collected to determine if the residents are being exposed to HAP emissions at levels that could pose an elevated risk to human health or the environment. MDEQ staff will be responsible for setup and deployment of all canisters used to collect the samples, collection of all samples, and shipment of the collected samples to the contracted lab for analysis.

MDEQ staff will review the data obtained from the analysis of each sample and compare it to both the historical information obtained from previous monitoring efforts and the various health values used by EPA to determine if the sampled concentrations would warrant a more extensive study. This review will also include a review of the impacts that the ambient conditions such as wind direction, wind speed, and temperature might have on the samples that were collected and in determining the possible source of the emissions obtained during the sampling effort. All meteorological information used in the evaluation of the data will be obtained from a local weather station.

## NO<sub>2</sub> MONITORING

During each trip to deploy and/or collect a VOC sample, the MDEQ will also take a nitrogen dioxide (NO<sub>2</sub>) reading in the area using a hand-held NO<sub>2</sub> analyzer in an effort to characterize the concentrations in the neighborhood during those visits.

The NO<sub>2</sub> analyzer that will be used is a ToxiRAE Pro Single Gas Detector NO<sub>2</sub>. It has a detection limit of 0.1 parts per million (ppm), and is capable of reading concentrations up to 20 ppm. The 1-hour NO<sub>2</sub> National Ambient Air Quality Standard (NAAQS) is 0.1 ppm; therefore, the range of this analyzer should be appropriate for determining the ambient NO<sub>2</sub> concentrations during our visits to the neighborhood.

**A FINAL REPORT, INCLUDING ALL DATA OBTAINED FROM EACH SAMPLE WILL BE MADE AVAILABLE TO ALL COMMUNITY STAKEHOLDERS WHO REQUEST THE INFORMATION.**

## CONTACT INFORMATION

**For more information, please contact Mississippi Department of Environmental Quality staff:**

**Melissa Collier**, *Office of Community Engagement*  
601-961-5025  
[Mcollier@mdeq.ms.gov](mailto:Mcollier@mdeq.ms.gov)

**Rick Sumrall**, *Environmental Compliance and Enforcement Division, Office of Pollution Control*  
601-961-5791  
[RSumrall@mdeq.ms.gov](mailto:RSumrall@mdeq.ms.gov)

**B. J. Hailey**, *Air Division, Office of Pollution Control*  
601-961-5783  
[BJHailey@mdeq.ms.gov](mailto:BJHailey@mdeq.ms.gov)

