CHEROKEE COMMUNITY
Ambient Air Quality Sampling Report
Pascagoula, Mississippi

January 2017

MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY

OVERVIEW

In late 2016, the Mississippi Department of Environmental Quality (MDEQ) collected three ambient air samples in the Cherokee neighborhood located in Pascagoula, MS in response to concerns as expressed by some members of the neighborhood about possible exposure to pollutants being emitted from the neighboring industrial complex.

The sampling effort was designed to take three samples on days in which the weather conditions were being forecast as "ideal" for producing maximum emissions-related impacts. As the weather data collected after each sampling event indicated, the agency was successful in collecting samples on such days. In addition to those three samples, we also agreed to take two response-type samples when the neighborhood experienced an abnormal condition believed to be detrimental to human health or the environment. We have yet to take the two response-type samples.

All samples were analyzed by a laboratory for a suite of air contaminants known as Volatile Organic Compounds (VOCs). These air contaminants volatilize readily into the atmosphere and are part of the composition of crude oil and petroleum products. VOCs are commonly found in air throughout the State because they are released from many sources such as industrial sources, motor vehicles and residential space heating. Since there are many sources of VOCs, it is expected that these compounds will be detected in all samples collected.

In addition to VOCs, the MDEQ determined that air monitoring for fine particulate matter (PM2.5) was unwarranted as the MDEQ currently monitors for PM2.5 in the city of Pascagoula. This monitor shows that the PM2.5 concentrations in the area are below health-based National Ambient Air Quality Standards.

LIMITATIONS AND UNCERTAINTIES

The air sampling effort provides for an initial screening of air quality in the Cherokee Community to look for results that might indicate the possibility of increased air concentrations of VOCs that would need to be further investigated. The effort was meant to provide a basis for an agency decision to continue **(or not continue)** the sampling effort. For example, sampling data that consistently indicates a low potential for exposures of public health concern might reasonably be discontinued and the sampling resources shifted to other locations.

Not every toxic air contaminant has an EPA recommended screening value. EPA when determining risk make these exposure assumptions:

- Resident lives at the monitoring site 70 years.
- Resident inhales measured concentrations 24 hours each of the 25,550 days in 70 years.
- Adult resident breathing rate (95th percentile) = 393 liters/kg/day

In general, it is not conventional to compare short-term measured results with long-term air concentration values. The MDEQ does this comparison with the understanding that the sampled results may not reflect longer-term exposures. The comparison of short-term samples to long-term health-based air concentrations is part of the screening process.

It is unlikely that this sampling data will provide enough information to determine specific source attribution. Determining the contribution of specific sources in an area with as many sources as exist in this area, including a major highway, is difficult to conduct in community surveys. Since only a limited number of samples are collected over a relatively short period of time, the information obtained cannot be used for enforcement or compliance purposes.

This air quality screening is limited to air toxics evaluated by EPA's TO-15 method. Some of the facilities and operations in the area release pollutants not captured by this method such as sulfur dioxide, oxides of nitrogen and fine particulate matter, but these pollutants are regulated as part of the Clean Air Act and facilities must meet specific emission limits to minimize their release. However, while taking the ambient air samples, staff also took readings from a handheld portable NO2 analyzer. During the sampling period staff observed that most of the times when the analyzer registered a reading above zero, it was during a high traffic period (i.e., shift changes) on the road between the neighborhood and the industrial complex.

The 24-hour samples, while effective at providing a general understanding, still represent a snap-shot of information and are not representative of the entire year. Short-term sampling provides a brief assessment of current conditions and many factors affect concentrations of pollutants in an area. Factors include, but are not limited to time of day, wind, traffic and activities going on in the area.

It should not be assumed that the results from this screening represent an individual's exposure. Results from any single location, whether short-term or long-term sampling, do not account for the fact that people spend time in many locations during the day as well as at locations that are indoors and outdoors. Other factors such as smoking, pumping gasoline, hobbies and occupations using solvents can lead to increases in toxic air pollutant exposures and contribute to the overall uncertainty in characterizing risk from the short-term sampling obtained in this effort. It should be noted that the results from this screening approach cannot be used to provide a complete understanding of risk attributable to air toxics in the community.

RESULTS

All results for the three MDEQ air sampling events are shown in on the next page along with comparisons to EPA's Office of Air Quality Planning and Standards (OAQPS) air screening values. While the sample size is limited (three samples) and the samples were obtained on days in which we would expect to maximize concentrations of emissions from the industrial complex, it appears these concentrations were similar to the concentrations we obtained during our previous study in Pascagoula from 2001-2005.

As such, we have determined that no additional sampling effort should be necessary. **However, MDEQ intends to capture the two "response" samples as outlined in the sampling plan.**

SUMMARY OF SAMPLING EFFORT

After consultation with community representatives, the sampling location was chosen on a vacant lot in the neighborhood. The sampling location was thought to be an ideal site to take an ambient air sample that would be representative of what is experienced by residents of the community. Although the prevailing winds do not blow from the direction of the industrial complex for extended periods of time throughout the year, we were able to use the short-term weather forecasts to take samples on days when the winds was from the industrial complex for much of the sampling period (additional information available).

Beginning in October 2016, staff obtained three 24-hour ambient air samples from the site. For each sampling date, we also collected a second sample in a co-located canister in an effort to quality assure the results of the concentrations being reported by the laboratory. There was an issue with the flow regulator during the first sampling event so only one valid sample was collected during the first sample collection event. The remaining two samples were collected without any issues and each had co-located samples to compare the results against.

The average concentrations from the samples were similar to or much lower than values obtained during our previous sampling effort in Pascagoula from 2001-2005. Figures 1 and 2 show Pascagoula Monitoring Efforts from 2001-2005 and 2016.

The maximum concentration of each VOC collected from the samples was compared against just 1% of the Threshold Limit Value (TLV). The TLV is a value used to determine the acceptable work place exposure over a lifetime without having adverse health effects. Not one maximum concentration reading for any measured VOC was above 1% of that value. This comparison has been used in the past by MDEQ when making permit determinations.

While taking the ambient air samples, staff also took readings from a handheld portable NO2 analyzer. For the three sample dates, the average concentrations of all readings recorded by the analyzer on those days were 0.0 ppm, 0.058 ppm, and 0.022 ppm (NAAQS 1-hour standard is 0.1 ppm).

Figure 1

VOC			EPA Screening Value (ug/m3)	2001		2002		2003		2004		2005	
Analyte		CAS #		AVG Concentration (ug/m3)	Max Concentration (ug/m3)	AVG Concentration (ug/m3)	Max Concentration (ug/m3)	AVG Concentration (ug/m3)	Max Concentration (ug/m3)	AVG Concentration (ug/m3)	Max Concentration (ug/m3)	AVG Concentration (ug/m3)	Max Concentration (ug/m3)
Benzene		71-43-2	0.13	1.870	3.330	1.220	1.880	1.470	4.770	1.110	2.800	1.160	1.710
Carbon Tetrachloride		56-23-5	0.17	0.780	0.980	0.270	0.710	0.250	0.410	0.290	0.350	0.290	0.410
Ethylbenzene		100-41-4	0.4	5.550	17.300	0.840	1.350	0.500	2.650	0.570	3.300	0.360	1.000

Figure 2

VOC		EPA Screening Value (ug/m3)	2016	
Analyte	CAS #		AVG Concentration (ug/m3)	Max Concentration (ug/m3)
Benzene	71-43-2	0.13	1.5	2.07
Carbon Tetrachloride	56-23-5	0.17	0.590	0.740
Ethylbenzene	100-41-4	0.4	1.120	1.780

Results= ug/m3

Analyte	CAS #	Date 10/4/2016	Date 10/27/2016	Date 10/27/2016	Date 11/2/2016	Date 11/2/2016	AVG Concentration (ug/m3)	Max Concentration (ug/m3)	EPA Screening Value (ug/m3)[1]
1,1,1-Trichloroethane	71-55-6	0.02	0.04	0.04	0.06	0.05	0.04	0.06	500
1,1,2,2-Tetrachloroethane	79-34-5	0	0	0	0	0	0.00	0.00	0.017
1,1,2-Trichloroethane	79-00-5	0	0	0	0.07	0	0.01	0.07	0.063
1,1-Dichloroethane	75-34-3	0	0	0	0.05	0.04	0.02	0.05	0.63
1,1-Dichloroethene	75-35-4	0	0	0	0.03	0	0.01	0.03	20
1,2,4-Trichlorobenzene	120-82-1	0	0	0	0.13	0.09	0.04	0.13	20
1,2,4-Trimethylbenzene	95-63-6	2.04	1.49	1.52	4.58	4.67	2.86	4.67	25
1,2-Dibromoethane	106-93-4	0	0	0	0.08	0	0.02	0.08	0.002
1,2-Dichloroethane	107-06-2	0.05	0.09	0.09	0.10	0.09	0.08	0.10	0.038
1,2-Dichloropropane	78-87-5	0	0	0	0.07	0	0.01	0.07	0.053
1,3,5-Trimethylbenzene	108-67-8	0.66	0.60	0.63	2.16	2.17	1.24	2.17	25
1,3-Butadiene	106-99-0	0.04	0.06	0.06	0.04	0.03	0.05	0.06	0.03
Acetonitrile	75-05-8	0.21	0.50	0.27	0.17	0.17	0.26	0.50	6
Acetylene	74-86-2	0.21	0.32	0.34	0.18	0.19	0.25	0.34	NE
Acrolein	107-02-8	0	0	1.65	0.66	1.19	0.70	1.65	0.002
Acrylonitrile	107-13-1	0	0	0	0	0	0.00	0.00	0.015
Benzene	71-43-2	1.28	1.13	1.07	2.01	2.07	1.51	2.07	0.13
Bromochloromethane	74-97-5	0.18	0.42	0.41	0.22	0.23	0.29	0.42	200
Bromodichloromethane	75-27-4	0	0	0	0	0	0.00	0.00	NE
Bromoform	75-25-2	0	0	0	0.14	0.10	0.05	0.14	0.91
Bromomethane	74-83-9	0.05	0.10	0.10	0.08	0.07	0.08	0.10	0.5
Carbon Disulfide	75-15-0	0.08	0.07	0.04	0.11	0.07	0.07	0.11	70
Carbon Tetrachloride	56-23-5	0.36	0.72	0.74	0.67	0.68	0.63	0.74	0.17
Chlorobenzene	108-90-7	0	0	0	0.05	0.04	0.02	0.05	100
Chloroethane	75-00-3	0.08	0.29	0.23	0.10	0.10	0.16	0.29	100
Chloroform	67-66-3	0.11	0.20	0.20	0.14	0.15	0.16	0.20	9.8
Chloromethane	74-87-3	1.09	1.49	1.45	0.94	1.03	1.20	1.49	9
Chloroprene	126-99-8	0	0	0	0	0	0.00	0.00	0.7
cis-1,2-Dichloroethylene	156-59-2	0	0	0	0	0	0.00	0.00	200
cis-1,3-Dichloropropene	10061-01-5	0	0	0	0	0	0.00	0.00	1
Dibromochloromethane	124-48-1	0	0.04	0.04	0.10	0.09	0.05	0.10	NE
Dichlorodifluoromethane	75-71-8	2.03	2.66	2.72	2.11	2.24	2.35	2.72	1000
Dichloromethane	75-09-2	0.38	0.36	0.46	0.27	0.28	0.35	0.46	2.1
Dichlorotetrafluoroethane	76-14-2	0.20	0.42	0.43	0.27	0.27	0.32	0.43	1000
Ethyl Acrylate	140-88-5	0	0	0	0	0	0.00	0.00	NA
Ethyl tert-Butyl Ether	637-92-3	0	0	0	0.04	0.03	0.01	0.04	NE
Ethylbenzene	100-41-4	0.78	0.79	0.82	1.72	1.78	1.18	1.78	0.4
Hexachloro-1,3-butadiene	87-68-3	0	0	0	0.14	0.11	0.05	0.14	0.045
m,p-Xylene	108-38-3, 106-42-3	3.23	2.61	2.75	6.73	6.90	4.44	6.90	10
m-Dichlorobenzene	541-73-1	0	0	0	0.07	0.05	0.02	0.07	NE
Methyl Isobutyl Ketone	108-10-1	0.45	0.59	0.27	0.21	0.18	0.34	0.59	300
Methyl Methacrylate	80-62-6	0	0	0	0	0	0.00	0.00	70
Methyl tert-Butyl Ether	1634-04-4	0	0	0	0.04	0.02	0.01	0.04	3.8
n-Octane	111-65-9	0.54	0.47	0.38	0.41	0.41	0.44	0.54	300
o-Dichlorobenzene	95-50-1	0	0	0	0.07	0.05	0.02	0.07	25

Units= ug/m3

Analyte	CAS #	Date 10/4/2016	Date 10/27/2016	Date 10/27/2016	Date 11/2/2016	Date 11/2/2016	AVG Concentration (ug/m3)	Max Concentration (ug/m3)	EPA Screening Value (ug/m3)[1]
o-Xylene	95-47-6	1.31	1.01	1.05	2.23	2.31	1.58	2.31	10
p-Dichlorobenzene	106-46-7	0.07	0	0	0.08	0.07	0.04	0.08	0.091
Propylene	115-07-1	3.08	7.04	7.04	4.16	4.47	5.16	7.04	NE
Styrene	100-42-5	0.29	0.16	0.17	0.06	0.06	0.15	0.29	100
tert-Amyl Methyl Ether	994-05-8	0	0	0	0	0	0.00	0.00	20
Tetrachloroethylene	127-18-4	0.30	0.06	0.06	0.09	0.08	0.12	0.30	0.17
Toluene	108-88-3	6.86	5.35	5.50	7.77	7.62	6.62	7.77	40
trans-1,2-Dichloroethylene	156-60-5	0	0	0	0.04	0	0.01	0.04	200
trans-1,3-Dichloropropene	10061-02-6	0	0	0	0	0	0.00	0.00	1
Trichloroethylene	79-01-6	0	0	0	0.08	0.06	0.03	0.08	0.5
Trichlorofluoromethane	75-69-4	1.24	1.76	1.83	1.35	1.41	1.52	1.83	1000
Trichlorotrifluoroethane	76-13-1	0.50	0.64	0.64	0.57	0.56	0.58	0.64	1000
Vinyl chloride	75-01-4	0.02	0.07	0.07	0.04	0.04	0.05	0.07	0.11

UNDERSTANDING UNITS OF MEASUREMENT

Technical environmental reports involving soil, water, or air contamination often report numerical values in units unfamiliar to people who don't routinely read these types of reports. The different units of measurement can be confusing.

µG/M³; (µG/M³) - Micrograms per cubic meter. The mass in micrograms of a substance contained within a cubic meter of another substance or vacuum. This is the standard unit of measure for the mass density (concentration) of particles suspended in air; also sometimes used for the concentration of gases in air.

Parts per Billion by Volume (*ppbv*). The units of ***ppbv*** are often used to describe concentrations of contaminants in air (as a volume fraction). PPB is a very small number and can be visualized by thinking of **one pinch of salt in 10 tons of potato chips**.

ABBREVIATIONS/DEFINITIONS

AMBIENT- surrounding area or environment

AIR TOXIC- Any air pollutant for which a national ambient air quality standard does not exist (i.e., excluding ozone, carbon monoxide, PM10, sulfur dioxide, and nitrogen dioxide) that may reasonably be anticipated to cause cancer, developmental effects, reproductive dysfunctions, neurological disorders, heritable gene mutations or other serious or irreversible chronic or acute health effects in humans.

CLEAN AIR ACT- US federal legislation (42 U.S.C. 7410 et seq.) to protect the health and welfare of the public by controlling air pollution, passed by the US Congress in 1963, with major amendments in 1967, 1970, 1977 and 1990.

THRESHOLD LIMIT VALUE (TLV)- The TLV is a value used to determine the acceptable work place exposure over a lifetime without having adverse health effects.

[1] **The acceptable range for co-located canisters is +/- 15%. Neither set of canisters met this criteria (see Figure 3 below).**

[2] Pollutants that exceeded the Chronic Screening Values from EPA's guidance document titled "Preliminary Risk-Based Screening Approach for Air Toxics Monitoring Sets"; however, EPA has indicated in previous assessments that a much more extensive data set would be necessary to conduct such an analysis using those screening values since they are commonly 1-year exposure values. Similar levels of those pollutants were observed in previous studies and EPA indicated in those evaluations that the measured concentrations were within the acceptable range of levels without an appreciable risk of adverse effects.

Figure 3

	Can 1	Can 2	15% of highest result	Range "+15%"	Range "-15%"
27-Oct	0	1.653139	0.247971	1.90111	1.405169
2-Nov	0.646582	1.189985	0.178498	1.368483	1.011487

Results= ppbv

Analyte	CAS #	Date 10/4/2016	Date 10/27/2016	Date 11/2/2016	AVG Concentration (ppbv)	AVG Concentration (ppmv)	Max Concentration (ppmv)	TLV 8-hour TWA (ppm)	1% of TLV (ppm)
1,1,1-Trichloroethane	71-55-6	0.003	0.008	0.011	0.007	7.3333E-06	0.000011	350	3.5
1,1,2,2-Tetrachloroethane	79-34-5	0	0	0	0.000	0	0	1	0.01
1,1,2-Trichloroethane	79-00-5	0	0	0.012	0.004	0.000004	0.000012	10	0.1
1,1-Dichloroethane	75-34-3	0	0	0.012	0.004	0.000004	0.000012	100	1
1,1-Dichloroethene	75-35-4	0	0	0.007	0.002	2.3333E-06	0.000007		0
1,2,4-Trichlorobenzene	120-82-1	0	0	0.018	0.006	0.000006	0.000018	5	0.05
1,2,4-Trimethylbenzene	95-63-6	0.416	0.309	0.949	0.558	0.000558	0.000949		0
1,2-Dibromoethane	106-93-4	0	0	0.01	0.003	3.3333E-06	0.00001		0
1,2-Dichloroethane	107-06-2	0.013	0.022	0.025	0.020	0.00002	0.000025		0
1,2-Dichloropropane	78-87-5	0	0	0.015	0.005	0.000005	0.000015	10	0.1
1,3,5-Trimethylbenzene	108-67-8	0.134	0.128	0.441	0.234	0.00023433	0.000441		0
1,3-Butadiene	106-99-0	0.016	0.029	0.016	0.020	2.0333E-05	0.000029	2	0.02
Acetonitrile	75-05-8	0.126	0.298	0.102	0.175	0.00017533	0.000298	20	0.2
Acetylene	74-86-2	0.196	0.318	0.179	0.231	0.000231	0.000318		0
Acrolein	107-02-8	0	0.721	0.519	0.413	0.00041333	0.000721	0.1	0.001
Acrylonitrile	107-13-1	0	0	0	0.000	0	0	2	0.02
Benzene	71-43-2	0.402	0.355	0.65	0.469	0.000469	0.00065	0.5	0.005
Bromochloromethane	74-97-5	0.034	0.079	0.043	0.052	0.000052	0.000079		0
Bromodichloromethane	75-27-4	0	0	0	0.000	0	0		0
Bromoform	75-25-2	0	0	0.014	0.005	4.6667E-06	0.000014	0.5	0.005
Bromomethane	74-83-9	0.012	0.025	0.02	0.019	0.000019	0.000025		0
Carbon Disulfide	75-15-0	0.027	0.022	0.034	0.028	2.7667E-05	0.000034	1	0.01
Carbon Tetrachloride	56-23-5	0.058	0.117	0.108	0.094	9.4333E-05	0.000117	5	0.05
Chlorobenzene	108-90-7	0	0	0.011	0.004	3.6667E-06	0.000011	10	0.1
Chloroethane	75-00-3	0.029	0.109	0.037	0.058	5.8333E-05	0.000109		0
Chloroform	67-66-3	0.022	0.042	0.03	0.031	3.1333E-05	0.000042	10	0.1
Chloromethane	74-87-3	0.525	0.721	0.496	0.581	0.00058067	0.000721	50	0.5
Chloroprene	126-99-8	0	0	0	0.000	0	0	10	0.1
cis-1,2-Dichloroethylene	156-59-2	0	0	0	0.000	0	0	200	2
cis-1,3-Dichloropropene	10061-01-	0	0	0	0.000	0	0		0
Dibromochloromethane	124-48-1	0	0.005	0.012	0.006	5.6667E-06	0.000012		0
Dichlorodifluoromethane	75-71-8	0.411	0.551	0.452	0.471	0.00047133	0.000551		0
Dichloromethane	75-09-2	0.108	0.132	0.081	0.107	0.000107	0.000132		0
Dichlorotetrafluoroethane	76-14-2	0.028	0.062	0.038	0.043	4.2667E-05	0.000062	1000	10
Ethyl Acrylate	140-88-5	0	0	0	0.000	0	0	5	0.05
Ethyl tert-Butyl Ether	637-92-3	0	0	0.009	0.003	0.000003	0.000009		0
Ethylbenzene	100-41-4	0.179	0.188	0.41	0.259	0.000259	0.00041	20	0.2
Hexachloro-1,3-butadiene	87-68-3	0	0	0.013	0.004	4.3333E-06	0.000013		0
m,p-Xylene	108-38-3,	0.743	0.633	1.59	0.989	0.00098867	0.00159	100	1
m-Dichlorobenzene	541-73-1	0	0	0.012	0.004	0.000004	0.000012		0
Methyl Isobutyl Ketone	108-10-1	0.109	0.144	0.052	0.102	0.00010167	0.000144	20	0.2
Methyl Methacrylate	80-62-6	0	0	0	0.000	0	0	50	0.5
Methyl tert-Butyl Ether	1634-04-4	0	0	0.01	0.003	3.3333E-06	0.00001		0
n-Octane	111-65-9	0.116	0.1	0.088	0.101	0.00010133	0.000116	300	3
o-Dichlorobenzene	95-50-1	0	0	0.012	0.004	0.000004	0.000012	25	0.25
o-Xylene	95-47-6	0.302	0.241	0.532	0.358	0.00035833	0.000532	100	1
p-Dichlorobenzene	106-46-7	0.012	0	0.014	0.009	8.6667E-06	0.000014	10	0.1
Propylene	115-07-1	1.79	4.09	2.6	2.827	0.00282667	0.00409		0
Styrene	100-42-5	0.068	0.04	0.015	0.041	0.000041	0.000068	20	0.2
tert-Amyl Methyl Ether	994-05-8	0	0	0	0.000	0	0		0
Tetrachloroethylene	127-18-4	0.044	0.009	0.013	0.022	0.000022	0.000044	25	0.25
Toluene	108-88-3	1.82	1.46	2.06	1.780	0.00178	0.00206	20	0.2
trans-1,2-Dichloroethylene	156-60-5	0	0	0.009	0.003	0.000003	0.000009		0
trans-1,3-Dichloropropene	10061-02-	0	0	0	0.000	0	0		0
Trichloroethylene	79-01-6	0	0	0.015	0.005	0.000005	0.000015	10	0.1
Trichlorofluoromethane	75-69-4	0.221	0.326	0.251	0.266	0.000266	0.000326		0
Trichlorotrifluoroethane	76-13-1	0.065	0.084	0.075	0.075	7.4667E-05	0.000084		0
Vinyl chloride	75-01-4	0.009	0.029	0.015	0.018	1.7667E-05	0.000029	1	0.01

This table shows the highest concentrations measured in units of **Parts per Billion by Volume** ***(ppbv)***. The units of ***ppbv*** are often used to describe concentrations of contaminants in air (as a volume fraction). PPB is a very small number and can be visualized by thinking of **one pinch of salt in 10 tons of potato chips**.

This table also shows the results of the sampling in comparison to the **Threshold Limit Value (TLV).** The TLV is a value used to determine the acceptable work place exposure over a lifetime without having adverse health effects.

Values in red flagged by the lab as being values under the method detection limit (MDL). The MDL is the minimum concentration that can be measured and reported with 99 percent confidence that the concentration is greater than zero.

SULFUR DIOXIDE AND NOISE

The Port of Pascagoula is located approximately 10 miles south of Interstate-10, encompasses approximately 214 acres, and is bounded to the north by U.S. Highway 90, to the east by U.S. Highway 63, and to the west by Pascagoula Bay. The Port of Pascagoula has two harbors: the Bayou Casotte Harbor and the Pascagoula River Harbor. The Port is zoned for industrial and special uses. Rail service begins at the terminals of the Pascagoula River and Bayou Casotte Harbors and rail spur comes in from Pascagoula. Cargo is distributed from the Port via rail and trucking services. Rail service includes CSX Transportation, and the Mississippi Export Railroad, which connects to Canadian National Railroad. Trucking services use highway connections, including Interstate 10 and U.S. Highway 90. Roads connecting the Port to U.S. Highway 90 and beyond include Port River Road and Plymouth Road, also known as Jerry Street PE Highway. The Port of Pascagoula, Bayou Casotte Harbor (Industrial Park) , is located in Jackson County, Mississippi, in the southeastern-most portion of the state in the Gulf of Mexico. It is positioned south of the juncture of Interstate-10 and Mississippi Highway 63.

The Port of Pascagoula was ranked 22nd in the U.S. in tonnage, handling more than 34 million tons of cargo (USACE 2007c). In 2011, over 35 million tons of cargo move through the port annually and it is a major U.S. port consistently ranking as a top 20 port in the nation for foreign cargo volume. Shipping, industrial operations, and handling the cargo generates background noise at the Port and at other industries with shipping operations in the area.

MDEQ collaborative efforts have been designed to bring varied groups, individuals, and agencies together to work on problems not easily solved by one group alone. Bayou Casotte Harbor supports both public and private terminals. All of these facilities have participated in the collaborative effort to address community concerns. The private terminals include:

- Chevron Pascagoula Refinery
- Mississippi Phosphates Corporation
- Signal International, LLC (East yard)
- Vision Technologies (VT) Halter Marine
- Gulf LNG Energy, LLC
- Chemours (formerly known as First Chemical Corporation)

The community is surrounded by industrial activities nearshore and open water offshore. Current sources of noise include existing industrial and shipping activities that are active year-round. In the Pascagoula Harbor, sources of those activities include the Port of Pascagoula, Signal International, Chevron, Mississippi Phosphates Corporation, VT Halter Marine, NOAA, Gulf LNG Energy, and the USCG.

Although noise is not regulated by MDEQ, the agency will continue working with all stakeholders in an effort to look for ways to reduce noise.

In the Fall of 2014, local industry from Bayou Casotte Industrial Park installed community air monitors to evaluate the community concerns about Sulfur Dioxide odors. The Sulfur Dioxide data is measured in parts per million (ppm). The data shows that there were four recorded measurements:

An analogy to help visualize the scale for ppm is to think of one minute in two years. Two years have 1,051,898 minutes.

Recorded Measurements	OSHA[1]	NIOSH[2]	AIHA[3]
0.6	5	100	3
0.8	5	100	3
0.7	5	100	3
0.6	5	100	3

[1]**OSHA PEL** (permissible exposure limit) = 5 ppm (averaged over an 8-hour work shift)

[2]**NIOSH IDLH** (immediately dangerous to life or health) = 100 ppm

[3]**AIHA ERPG-2** (maximum airborne concentration below which it is believed that nearly all persons could be exposed for up to 1 hour without experiencing or developing irreversible or other serious health effects or symptoms that could impair their abilities to take protective ac-

FOR MORE INFORMATION ON COMMUNITY AIR SAMPLING:

MDEQ, P.O. Box 2261, Jackson, MS 39225

Melissa McGee-Collier, Office of Community Engagement
(601) 961-5025
mcollier@mdeq.ms.gov

FOR HEALTH INFORMATION ABOUT THE CONSTITUENTS BEING SAMPLED:

AGENCY FOR TOXIC SUBSTANCES AND DISEASE REGISTRY (ATSDR)

This fact sheet does not answer health questions about Volatile Organic Chemicals or Hazardous Air Pollutants. For more information, you may call the ATSDR Information Center at 1-800-232-4636 or visit the website at http://www.atsdr.cdc.gov/.

FOR MORE INFORMATION ON AIR QUALITY, PLEASE VISIT

HTTPS://WWW.EPA.GOV/OUTDOOR-AIR-QUALITY-DATA

This website provides access to outdoor air quality data collected from state, local and tribal monitoring agencies across the United States.