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MISSISSIPPI DEPARTMENT OF ENVIRONMENTAL QUALITY



CHEROKEE COMMUNITY

Pascagoula, Mississippi

Fact Sheet No.5

June 2018

Ambient Air Quality Sampling Report Update

MDEQ recently completed the air toxic emissions sampling effort in the Cherokee neighborhood. Since our last update to the community, results from the two response sampling events have been obtained. The latest round of sampling did not identify air toxics in concentrations that threaten human health. These sample results are consistent with the results from the first three sampling events, which were reported earlier and discussed during the community meeting in February 2017.

The table includes all of MDEQ’s sampling results. The table also lists the Environmental Protection Agency’s (EPA) and the Occupational Safety and Health Administration’s (OSHA) reference values that were used to assess and screen the data. To best determine if human health risks existed, MDEQ’s sampling data was compared to OSHA’s health-based threshold limit values (TLVs). As you will note, the concentrations from our sampling data were far below OSHA standards. Conservatively, MDEQ went a step further and compared our results against 1% of the TLVs, and all measurements were less than 1%, or 1/100th, of this health-based standard. EPA also confirmed that comparison of MDEQ’s sample results to 1% of the TLVs is very conservative and protective of health in the community.

You will also note that our table includes columns other than the OSHA TLVs referenced above. The remaining columns are EPA’s chronic and acute screening levels. It is important to understand how

screening levels work. Any measurement at or below the listed screening values is not a threat to human health or the environment and no further evaluation/comparison would be needed. Any measurement above a screening value does not necessarily mean there is a threat to human health but, it means further evaluation of the data is warranted. This further evaluation was already accomplished when we compared the sampling data to the health-based TLVs. While you will see a few measurements exceeded EPA’s chronic screening levels, when compared to the TLVs, it is clear the contaminants are well below the health-based criteria.

You can be confident in our commitment to perform facility inspections and enforce all applicable requirements. We expect all regulated facilities to fully comply with all environmental permits and regulations. We will continue to thoroughly investigate all environmental complaints to identify problems, develop solutions, and protect the environment.

Volatile Organic Compound	CAS #	Sample Results									EPA Screening Values			MRL ^b	OSHA	
		10/4/2016	10/27/2016	10/27/2016	11/2/2016	11/2/2016	1/13/2017	Response Sample 1/12/2017	Response Sample 6/9/2017	Maximum Measured Concentration	Chronic	Acute			TLV 8-hour TWA ^c	
											Screening Value ^a	AEGL-1 (1-hour) ^b	AEGL-1 (8-hour) ^b	1% of TLV		
		ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppbv	ppb	ppb	ppb	ppb	ppb	ppb
1,1,1-Trichloroethane	71-55-6	0.003	0.008	0.008	0.011	0.01	ND	ND	ND	0.011	92	238,095	238,095	2,015	350,000	3,500
1,1,2,2-Tetrachloroethane	79-34-5	ND	ND	ND	ND	ND	ND	ND	ND	0	0.002	NE	NE	NE	1,000	10
1,1,2-Trichloroethane	79-00-5	ND	ND	ND	0.012	ND	ND	ND	ND	0.012	0.012	NE	NE	NE	10,000	100
1,1-Dichloroethane	75-34-3	ND	ND	ND	0.012	0.009	ND	ND	ND	0.012	0.156	NE	NE	NE	100,000	1,000
1,1-Dichloroethene	75-35-4	ND	ND	ND	0.007	ND	0.004	ND	ND	0.007	5.000	NE	NE	NE	NE	NE
1,2,4-Trichlorobenzene	120-82-1	ND	ND	ND	0.018	0.012	ND	ND	ND	0.018	2.695	NE	NE	NE	5,000	50
1,2,4-Trimethylbenzene	95-63-6	0.416	0.304	0.309	0.931	0.949	0.195	0.495	0.044	0.949	5.081	NE	NE	NE	NE	NE
1,2-Dibromoethane	106-93-4	ND	ND	ND	0.01	ND	ND	ND	ND	0.01	0.0003	16,883	4,545	NE	NE	NE
1,2-Dichloroethane	107-06-2	0.013	0.022	0.022	0.025	0.022	0.025	0.017	0.017	0.025	0.009	NE	NE	NE	10,000	100
1,2-Dichloropropane	78-87-5	ND	ND	ND	0.015	ND	ND	ND	ND	0.015	0.012	NE	NE	50	10,000	100
1,3,5-Trimethylbenzene	108-67-8	0.134	0.122	0.128	0.44	0.441	0.069	0.122	0.012	0.441	5.081	NE	NE	NE	NE	NE
1,3-Butadiene	106-99-0	0.016	0.029	0.029	0.016	0.012	0.032	ND	0.008	0.032	0.014	678,733	678,733	100	2,000	20
Acetonitrile	75-05-8	0.126	0.298	0.159	0.1	0.102	0.088	0.106	0.096	0.298	3.571	13,095	13,095	NE	20,000	200
Acetylene	74-86-2	0.196	0.296	0.318	0.167	0.179	0.304	0.186	0.178	0.318	NE	NE	NE	NE	NE	NE
Acrolein	107-02-8	ND	ND	0.721	0.282	0.519	ND	0.245	0.381	0.721	0.0009	30	30	3	100	1
Acrylonitrile	107-13-1	ND	ND	ND	ND	ND	ND	ND	ND	0	0.007	4,608	4,608	101	2,000	20
Benzene	71-43-2	0.402	0.355	0.335	0.629	0.65	0.748	0.503	0.139	0.748	0.041	53,797	9,177	9	500	5
Bromochloromethane	74-97-5	0.034	0.079	0.078	0.042	0.043	0.058	0.05	ND	0.079	38	NE	NE	NE	200,000	2,000
Bromodichloromethane	75-27-4	ND	ND	ND	ND	ND	ND	ND	ND	0	NE	NE	NE	NE	NE	NE
Bromoform	75-25-2	ND	ND	ND	0.014	0.01	ND	ND	ND	0.014	0.127	NE	NE	NE	500	5
Bromomethane	74-83-9	0.012	0.025	0.025	0.02	0.019	0.018	0.013	0.009	0.025	0.128	NE	NE	49	1,000	10
Carbon Disulfide	75-15-0	0.027	0.022	0.014	0.034	0.022	0.018	0.005	0.006	0.034	23	NE	NE	NE	1,000	10
Carbon Tetrachloride	56-23-5	0.058	0.115	0.117	0.106	0.108	0.102	0.088	0.107	0.117	0.027	44,515	19,078	NE	5,000	50
Chlorobenzene	108-90-7	ND	ND	ND	0.011	0.009	ND	ND	ND	0.011	22	9,978	9,978	NE	10,000	100
Chloroethane	75-00-3	0.029	0.109	0.087	0.037	0.037	0.045	0.03	ND	0.109	38	NE	NE	15,385	100,000	1,000
Chloroform	67-66-3	0.022	0.04	0.042	0.028	0.03	0.03	0.019	0.03	0.042	2.008	NE	NE	100	10,000	100
Chloromethane	74-87-3	0.525	0.721	0.7	0.455	0.496	0.543	0.451	0.53	0.721	2.486	NE	NE	276	50,000	500
Chloroprene	126-99-8	ND	ND	ND	ND	ND	ND	ND	ND	0	0.194	NE	NE	NE	1,000	10
cis-1,2-Dichloroethylene	156-59-2	ND	ND	ND	ND	ND	ND	ND	ND	0	50	NE	NE	NE	200,000	2,000
cis-1,3-Dichloropropene	10061-01-5	ND	ND	ND	ND	ND	ND	ND	ND	0	0.222	NE	NE	NE	NE	NE
Dibromochloromethane	124-48-1	ND	0.005	0.005	0.012	0.01	0.007	ND	ND	0.012	NE	NE	NE	NE	NE	NE
Dichlorodifluoromethane	75-71-8	0.411	0.537	0.551	0.427	0.452	0.427	0.36	0.451	0.551	202	NE	NE	NE	1,000,000	10,000
Dichloromethane	75-09-2	0.108	0.104	0.132	0.077	0.081	0.088	0.07	0.084	0.132	0.6	197,143	NE	600	50,000	500
Dichlorotetrafluoroethane	76-14-2	0.028	0.06	0.062	0.038	0.038	0.038	0.029	0.015	0.062	143	NE	NE	NE	1,000,000	10,000
Ethyl Acrylate	140-88-5	ND	ND	ND	ND	ND	ND	ND	ND	0	NE	9,444	9,444	NE	5,000	50
Ethyl tert-Butyl Ether	637-92-3	ND	ND	ND	0.009	0.007	ND	ND	ND	0.009	NE	NE	NE	NE	NE	NE
Ethylbenzene	100-41-4	0.179	0.183	0.188	0.397	0.41	0.267	0.062	0.099	0.41	0.092	32,258	32,258	5,069	20,000	200
Hexachloro-1,3-butadiene	87-68-3	ND	ND	ND	0.013	0.01	ND	ND	ND	0.013	0.004	NE	NE	NE	NE	NE
m,p-Xylene	108-38-3, 106-42-3	0.743	0.6	0.633	1.55	1.59	1.06	0.214	0.091	1.59	2.304	NE	NE	NE	100,000	1,000
m-Dichlorobenzene	541-73-1	ND	ND	ND	0.012	0.008	ND	ND	ND	0.012	NE	NE	NE	NE	NE	NE
Methyl Isobutyl Ketone	108-10-1	0.109	0.144	0.067	0.052	0.043	0.229	0.036	0.035	0.229	64	NE	NE	NE	20,000	200
Methyl Methacrylate	80-62-6	ND	ND	ND	ND	ND	ND	ND	ND	0	17	17,115	17,115	NE	50,000	500
Methyl tert-Butyl Ether	1634-04-4	ND	ND	ND	0.01	0.006	ND	ND	ND	0.01	1.053	49,861	49,861	1,994	NE	NE
n-Octane	111-65-9	0.116	0.1	0.082	0.088	0.088	0.106	0.19	0.029	0.19	64	NE	NE	NE	300,000	3,000
o-Dichlorobenzene	95-50-1	ND	ND	ND	0.012	0.008	ND	ND	ND	0.012	4.167	NE	NE	NE	25,000	250
o-Xylene	95-47-6	0.302	0.233	0.241	0.513	0.532	0.392	0.243	0.107	0.532	2.304	NE	NE	NE	100,000	1,000
p-Dichlorobenzene	106-46-7	0.012	ND	ND	0.014	0.011	ND	ND	ND	0.014	0.015	NE	NE	NE	10,000	100
Propylene	115-07-1	1.79	4.09	4.09	2.42	2.6	3.69	0.441	0.199	4.09	NE	NE	NE	NE	NE	NE
Styrene	100-42-5	0.068	0.037	0.04	0.015	0.015	0.013	ND	0.018	0.068	23	19,953	19,953	4,930	20,000	200
tert-Amyl Methyl Ether	994-05-8	ND	ND	ND	ND	ND	ND	ND	ND	0	4.796	NE	NE	NE	NE	NE
Tetrachloroethylene	127-18-4	0.044	0.009	0.009	0.013	0.012	0.01	ND	ND	0.044	0.025	35,398	35,398	206	25,000	250
Toluene	108-88-3	1.82	1.42	1.46	2.06	2.02	3.55	0.348	0.736	3.55	11	198,939	198,939	1,008	20,000	200
trans-1,2-Dichloroethylene	156-60-5	ND	ND	ND	0.009	ND	ND	ND	ND	0.009	50	NE	NE	NE	NE	NE
trans-1,3-Dichloropropene	10061-02-6	ND	ND	ND	ND	ND	ND	ND	ND	0	0.222	NE	NE	NE	NE	NE
Trichloroethylene	79-01-6	ND	ND	ND	0.015	0.012	ND	ND	ND	0.015	0.093	130,354	76,350	2,048	10,000	100
Trichlorofluoromethane	75-69-4	0.221	0.314	0.326	0.241	0.251	0.25	0.21	0.226	0.326	179	NE	NE	NE	NE	NE
Trichlorotrifluoroethane	76-13-1	0.065	0.083	0.084	0.075	0.073	0.072	0.059	0.073	0.084	130	NE	NE	NE	1,000,000	10,000
Vinyl chloride	75-01-4	0.009	0.029	0.026	0.015	0.015	0.014	0.009	ND	0.029	0.043	250,000	70,313	508	1,000	10

Note 1: All Non-Detects (ND) use a value of "0" for analysis.

Note 2: ND = non-detect

Note 3: NE = not established

a Values obtained from Appendix A of EPA's guidance document "A Preliminary Risk-Based Screening Approach for Air Toxics Monitoring Data Sets" and other air toxics studies.

b Values obtained from EPA's Acute Dose-Response Assessment Tables found at <https://www.epa.gov/fera/dose-response-assessment-assessing-health-risks-associated-exposure-hazardous-air-pollutants>. (These values can also be found in Appendix B of EPA's guidance document "A Preliminary Risk-Based Screening Approach for Air Toxics Monitoring Data Sets".)

c Values obtained from OSHA Annotated Z Tables found at <https://www.osha.gov/dsg/annotated-pels/tablez-1.html> using ACGIH 2017 8-hour time weighted average (TWA) TLV values. When 2017 values were unavailable, prior years ACGIH data located at https://www.osha.gov/dts/chemicalsampling/toc/chmn_A.html was used.