

**TABLE D-2a - SUMMATION OF MODELED IMPACTS (STANDARD 2)**

**Vulcan Construction Materials, LLC - Lexington Quarry**

**Dewatering Pump located in Full Pit**

Pollutant	2002 Modeled Impact (µg/m³)	2003 Modeled Impact (µg/m³)	2004 Modeled Impact (µg/m³)	2005 Modeled Impact (µg/m³)	2006 Modeled Impact (µg/m³)	Background (µg/m³)	Total Impact (µg/m³)	Standard (µg/m³)	PASS?
PM <sub>10</sub> 24-hr	50.25					<b>38</b>	88.25	150	YES
PM <sub>2.5</sub> 24-hr	8.27					<b>20</b>	28.27	35	YES
PM <sub>2.5</sub> Annual	1.06					<b>9.7</b>	10.76	12	YES
SO <sub>2</sub> 1-hr	1.88					<b>30.5</b>	32.42	196	YES
SO <sub>2</sub> 3-hr	1.36	1.13	1.18	1.39	1.29	<b>31.4</b>	32.79	1300	YES
CO 1-hr	6.88	8.74	7.25	6.54	6.24	<b>1450.3</b>	1459.08	40000	YES
CO 8-hr	3.06	2.91	2.97	3.97	3.08	<b>916.0</b>	919.97	10000	YES
NO <sub>2</sub> Annual	0.07	0.06	0.06	0.07	0.05	<b>8.8</b>	8.88	100	YES
NO <sub>2</sub> 1-hr	1.13					<b>83.4</b>	84.52	188	YES

**Notes:**

The PM<sub>10</sub> 24-hr modeled impact is the maximum average high-6th-high 24-hr result over 5 years

The PM<sub>2.5</sub> 24-hr modeled impact is the maximum average high 24-hr result over 5 years

The PM<sub>2.5</sub> annual modeled impact is the maximum average high annual result over 5 years

The SO<sub>2</sub> 1-hr modeled impact is the 4th high result averaged over 5 years

The SO<sub>2</sub> 3-hr modeled impact is the 2nd high result for each year

The CO 1-hr modeled impact is the 2nd high result for each year

The CO 8-hr modeled impact is the 2nd high result for each year

The NO<sub>2</sub> annual modeled impact is the high result for each year

The NO<sub>2</sub> 1-hr modeled impact is the 8th high result averaged over 5 years

Background concentrations for pollutants obtained from "SC DHEC BACKGROUND CONCENTRATIONS FOR MODELING PURPOSES" spreadsheet updated 9/9/2015

PM<sub>10</sub> used Bates House site in Columbia.

PM<sub>2.5</sub> used Irmo site in Lexington, Co.

SO<sub>2</sub> used Parklane site in Richland

CO used Parklane site in Richland

NO<sub>2</sub> used Sandhill site in Richland

PM modeling completed during plant operating hours of 6am - 8 pm Monday - Saturday, no operations on Sunday

NO<sub>2</sub> modeling completed using the emission factor of 1g/kW-hr (John Deere Final Tier 4/Stage IV pump engine)

**TABLE D-2b - SUMMATION OF MODELED IMPACTS (STANDARD 2)**

**Vulcan Construction Materials, LLC - Lexington Quarry**

**Dewatering Pump located in Initial Pit**

Pollutant	2002 Modeled Impact (µg/m³)	2003 Modeled Impact (µg/m³)	2004 Modeled Impact (µg/m³)	2005 Modeled Impact (µg/m³)	2006 Modeled Impact (µg/m³)	Background (µg/m³)	Total Impact (µg/m³)	Standard (µg/m³)	PASS?
PM <sub>10</sub> 24-hr	0.80					<b>38</b>	38.80	150	YES
PM <sub>2.5</sub> 24-hr	0.92					<b>20</b>	20.92	35	YES
PM <sub>2.5</sub> Annual	0.0815					<b>9.7</b>	9.78	12	YES
SO <sub>2</sub> 1-hr	113.09					<b>30.5</b>	143.63	196	YES
SO <sub>2</sub> 3-hr	74.05	67.75	79.49	68.54	67.71	<b>31.4</b>	110.89	1300	YES
CO 1-hr	391.98	363.05	383.09	382.02	390.06	<b>1450.3</b>	1842.31	40000	YES
CO 8-hr	148.17	151.45	162.59	130.76	166.06	<b>916.0</b>	1082.06	10000	YES
NO <sub>2</sub> Annual	1.27	1.34	1.41	1.19	1.36	<b>8.8</b>	10.22	100	YES
NO <sub>2</sub> 1-hr	68.33					<b>83.4</b>	151.72	188	YES

**Notes:**

The PM<sub>10</sub> 24-hr modeled impact is the maximum average high-6th-high 24-hr result over 5 years

The PM<sub>2.5</sub> 24-hr modeled impact is the maximum average high 24-hr result over 5 years

The PM<sub>2.5</sub> annual modeled impact is the maximum average high annual result over 5 years

The SO<sub>2</sub> 1-hr modeled impact is the 4th high result averaged over 5 years

The SO<sub>2</sub> 3-hr modeled impact is the 2nd high result for each year

The CO 1-hr modeled impact is the 2nd high result for each year

The CO 8-hr modeled impact is the 2nd high result for each year

The NO<sub>2</sub> annual modeled impact is the high result for each year

The NO<sub>2</sub> 1-hr modeled impact is the 8th high result averaged over 5 years

Background concentrations for pollutants obtained from "SC DHEC BACKGROUND CONCENTRATIONS FOR MODELING PURPOSES" spreadsheet updated 9/9/2015

PM<sub>10</sub> used Bates House site in Columbia.

PM<sub>2.5</sub> used Irmo site in Lexington, Co.

SO<sub>2</sub> used Parklane site in Richland

CO used Parklane site in Richland

NO<sub>2</sub> used Sandhill site in Richland

NO<sub>2</sub> modeling completed using the emission factor of 1g/kW-hr (John Deere Final Tier 4/Stage IV pump engine)

**TABLE D-3a - CLASS II PSD (STANDARD 7)**

**Vulcan Construction Materials, LLC - Lexington Quarry**

**Dewatering Pump located in Full Pit**

Pollutant	2002 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	2003 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	2004 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	2005 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	2006 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	Maximum Modeled Conc ( $\mu\text{g}/\text{m}^3$ )	Standard ( $\mu\text{g}/\text{m}^3$ )	PASS?
PM <sub>10</sub> 24-hr	20.24	26.10	25.86	18.24	21.02	26.10	30	YES
PM <sub>10</sub> Annual	1.82	1.80	1.55	1.49	1.83	1.83	17	YES
PM <sub>2.5</sub> 24-hr	3.45	4.00	3.76	5.06	4.13	5.06	9	YES
PM <sub>2.5</sub> Annual	0.24	0.22	0.19	0.19	0.23	0.24	4	YES
SO <sub>2</sub> Annual	0.102	0.095	0.098	0.104	0.084	0.10	20	YES
SO <sub>2</sub> 24-hr	0.88	0.68	0.77	0.56	0.65	0.88	91	YES
SO <sub>2</sub> 3-hr	1.36	1.13	1.18	1.39	1.29	1.39	512	YES
NO <sub>2</sub> Annual	0.07	0.06	0.06	0.07	0.05	0.07	25	YES

**Notes:**

The PM<sub>10</sub> 24-hr modeled impact is the maximum high-2nd-high 24-hr result over 5 years.

The PM<sub>10</sub> and PM<sub>2.5</sub> annual modeled impact is the maximum high result over 5 years.

The SO<sub>2</sub> 3-hr modeled impact is the maximum high-2nd-high 24-hr result over 5 years.

The SO<sub>2</sub> 24-hr and annual modeled impact is the maximum high result over 5 years.

The NO<sub>2</sub> annual modeled impact is the maximum high result over 5 years

PM modeling completed during plant operating hours of 6am - 8 pm Monday - Saturday, no operations on Sunday

NO<sub>2</sub> modeling completed using the emission factor of 1g/kW-hr (John Deere Final Tier 4/Stage IV pump engine)

**TABLE D-3b - CLASS II PSD (STANDARD 7)**

**Vulcan Construction Materials, LLC - Lexington Quarry**

**Dewatering Pump located in Initial Pit**

Pollutant	2002 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	2003 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	2004 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	2005 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	2006 Modeled Impact ( $\mu\text{g}/\text{m}^3$ )	Maximum Modeled Conc ( $\mu\text{g}/\text{m}^3$ )	Standard ( $\mu\text{g}/\text{m}^3$ )	PASS?
PM <sub>10</sub> 24-hr	0.73	0.74	0.72	0.75	0.80	0.80	30	YES
PM <sub>10</sub> Annual	0.08	0.08	0.09	0.07	0.08	0.09	17	YES
PM <sub>2.5</sub> 24-hr	0.79	0.83	0.87	1.15	0.97	1.15	9	YES
PM <sub>2.5</sub> Annual	0.08	0.08	0.09	0.07	0.08	0.09	4	YES
SO <sub>2</sub> Annual	1.98	2.09	2.20	1.86	2.12	2.20	20	YES
SO <sub>2</sub> 24-hr	19.75	20.74	21.75	28.82	24.23	28.82	91	YES
SO <sub>2</sub> 3-hr	74.05	67.75	79.49	68.54	67.71	79.49	512	YES
NO <sub>2</sub> Annual	1.27	1.34	1.41	1.19	1.36	1.41	25	YES

**Notes:**

The PM<sub>10</sub> 24-hr modeled impact is the maximum high-2nd-high 24-hr result over 5 years.

The PM<sub>10</sub> and PM<sub>2.5</sub> annual modeled impact is the maximum high result over 5 years.

The SO<sub>2</sub> 3-hr modeled impact is the maximum high-2nd-high 24-hr result over 5 years.

The SO<sub>2</sub> 24-hr and annual modeled impact is the maximum high result over 5 years.

The NO<sub>2</sub> annual modeled impact is the maximum high result over 5 years

NO<sub>2</sub> modeling completed using the emission factor of 1g/kW-hr (John Deere Final Tier 4/Stage IV pump engine)