

AIR COMPLIANCE ANALYSIS SUMMARY SHEET

COMPANY/FACILITY: River Bend Aggregates, LLC
LOCATION (COUNTY): Pacolet (Spartanburg) **DATE:** 11/20/2023
PERMIT NUMBER: 2060-0665 **REVIEWED BY:** AJF

REQUEST:	<u>Y</u>	CONSTRUCTION PERMIT	<u> </u>	STATE PERMIT
	<u> </u>	OPERATING PERMIT - NEW	<u> </u>	CONDITIONAL MAJOR
	<u> </u>	OPERATING PERMIT - RENEWAL	<u> </u>	GENERAL CM
	<u> </u>	PERMIT - MODIFICATION	<u> </u>	TITLE V PERMIT
	<u> </u>	AIR COMPLIANCE DEMO	<u> </u>	PSD MAJOR

ANALYSIS:	<u>Y</u>	AMBIENT AIR QUALITY STANDARDS	<u> </u>	PSD INCREMENT
	<u> </u>	TOXIC AIR POLLUTANTS	<u> </u>	DE MINIMIS
	<u>Y</u>	EXEMPTION	<u> </u>	DEFERRAL

OTHER: **EXPEDITED** N **COLLOCATED (Y or N)**

PROJECT DESCRIPTION: The facility has submitted the application to obtain a construction permit for a proposed aggregate mine and processing facility. The new equipment that will be installed at the mine includes crushers, screens, conveyors and two exempt water pumps that are not stationary sources.

SUMMARY OF ANALYSIS & RESULTS: S&ME, Inc. submitted a modeling analysis on behalf of the facility.

Standard 2: AERMOD modeling for PM₁₀ and PM_{2.5} was completed for the facility and the results have been included below. While each of the modeled emission points modeled would qualify for exemption from modeling on the basis of PM emissions being less than the exemption emission rate, the facility chose to include them in a modeling compliance demonstration. The two water pumps (emission point ID's SP101 and WP101) are exempt for all emissions on the basis of being portable, "non-road" internal combustion engines. The Haul Roads emission point ID is categorically exempt (the roads will be maintained using a dust control plan [wet suppression] to minimize fugitive dust emissions).

Standard 7: Since this is not a PSD project, no Standard 7 analysis is required.

Standard 8: There are no Standard 8 emissions from this project.

This is the first complete modeling summary for the facility.

STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS ANALYSIS							
Pollutant	Averaging Time	Basis	Maximum Concentration (µg/m ³)	Background Concentration (µg/m ³)	Total (µg/m ³)	Standard (µg/m ³)	% of Standard
PM ₁₀	24-Hour	AERMOD	67.69 ⁽¹⁾	30	98	150	65
PM _{2.5}	24-Hour	AERMOD	7.00 ⁽²⁾	15.4	22	35	63
	Annual	AERMOD	1.91 ⁽³⁾	7.7	10	12	83

1) The sixth-high over five years of met data.

2) The five-year average of the eighth-high concentrations.

3) The five-year average of the maximum annual concentrations.

BACKGROUND MONITORING DATA ($\mu\text{g}/\text{m}^3$)									
Pollutant	Site Name	County	Year	1-Hr	3-Hr	8-Hr	24-Hr	3-Mo	Annual
PM ₁₀	Greenville ESC	Greenville	17-19				30		
PM _{2.5}	T.K. Gregg	Spartanburg	17-19				15.4		7.7

PM₁₀ 24-hr is the fourth-high over 3-year period.
The concentration listed for all other pollutants and averaging periods is the 3-year design value.

STANDARD NO. 2 - AMBIENT AIR QUALITY STANDARDS EMISSION RATES (LB/HR)						
Emission Point ID	PM ₁₀	PM _{2.5}	SO ₂	NO _x	CO	Lead
CR101	0.22	0.04	--	--	--	--
CR102	0.30	0.06	--	--	--	--
CR103	0.15	0.03	--	--	--	--
C101 through C144 ⁽¹⁾	0.63	0.17	--	--	--	--
SCR101	0.41	0.03	--	--	--	--
SCR102	0.16	0.01	--	--	--	--
SCR103	0.16	0.01	--	--	--	--
SCR104	0.28	0.02	--	--	--	--
STP1	0.0017	0.0002	--	--	--	--
STP2	0.0017	0.0002	--	--	--	--
STP3	0.0099	0.0014	--	--	--	--
STP4	0.0017	0.0002	--	--	--	--
STP5	0.0113	0.0016	--	--	--	--
STP6	0.0113	0.0016	--	--	--	--
STP7	0.0028	0.0004	--	--	--	--
STP8	0.0101	0.0015	--	--	--	--
VGf101	0.0079	7.94E-04				
FACILITY TOTAL	2.3684	0.3744	--	--	--	--

1) All of the conveyors have been included together because they have similar emission rates

EMISSION POINT DESCRIPTIVE INFORMATION				
Emission Point ID	Source Identification & Description	Date Installed (Modified)	Status	Other
CR101	Primary Jaw Crusher	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
CR102	Secondary Cone Crusher	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
CR103	Tertiary Cone Crusher	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
C101 through C144	Conveyors	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
Haul Roads	Haul Roads	2024	Exempt Std 2, 7: Maintained using wet suppression to minimize fugitive dust emissions ⁽¹⁾ Categorically exempt source	
SCR101	Horizontal Screen	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
SCR102	Horizontal Screen	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
SCR103	Horizontal Screen	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
SCR104	Horizontal Screen	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
SP101	60 HP Slurry Pump	2024	Exempt Std 2, 7, 8: ICE considered portable, "non-road" engine ⁽¹⁾	
STP1	Aggregate Stockpile	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
STP2	Aggregate Stockpile	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
STP3	Aggregate Stockpile	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
STP4	Aggregate Stockpile	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
STP5	Aggregate Stockpile	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
STP6	Aggregate Stockpile	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
STP7	Aggregate Stockpile	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
STP8	Aggregate Stockpile	2024	Exempt Std 2, 7: PM ₁₀ , PM _{2.5} < 1.14 lb/hr ⁽¹⁾	
VGF101	Vibrating Grizzly Feeder	2024	Categorically exempt source	
WP101	100 HP Fresh Water Supply Pump	2024	Exempt Std 2, 7, 8: ICE considered portable, "non-road" engine ⁽¹⁾	
1) Qualifies to be exempted from modeling, but facility chose to model to demonstrate compliance				

AREA SOURCE PARAMETERS

Emission Point ID	Date Last Modeled	Location (UTM)		Release Height AGL (ft)	Easterly Length X (ft)	Northerly Length Y (ft)	Angle From North (°)	Initial Vertical Dimension σ_z (ft)	Distance To Property Line (ft)
		East (m)	North (m)						
CR101	11/20/23	430255	3865999	9.8	16.0	8.7	0	0	See AERMOD Files
CR102	11/20/23	430261	3866133	9.8	10.0	20.0	0	0	See AERMOD Files
CR103	11/20/23	430265	3866130	9.8	10.0	20.0	0	0	See AERMOD Files
C101	11/20/23	430173	3865875	9.8	2.5	80.1	0	0	See AERMOD Files
C102	11/20/23	430185	3865890	6.6	2.5	80.1	0	0	See AERMOD Files
C103	11/20/23	430176	3865903	6.6	3.0	125.0	0	0	See AERMOD Files
C104	11/20/23	430155	3865909	6.6	3.0	80.0	0	0	See AERMOD Files
C105	11/20/23	430150	3865903	6.6	3.5	60.0	0	0	See AERMOD Files
C106	11/20/23	430157	3865914	6.6	3.5	60.0	0	0	See AERMOD Files
C107	11/20/23	430144	3865910	6.6	3.5	75.0	0	0	See AERMOD Files
C108	11/20/23	430153	3865921	6.6	3.5	75.0	0	0	See AERMOD Files

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		East (m)	North (m)						
C109	11/20/23	430144	3865948	6.6	3.5	120.0	0	0	See AERMOD Files
C110	11/20/23	430154	3865980	6.6	3.5	100.0	0	0	See AERMOD Files
C111	11/20/23	430167	3865978	6.6	3.5	40.0	0	0	See AERMOD Files
C112	11/20/23	430174	3865973	6.6	3.5	120.0	0	0	See AERMOD Files
C113	11/20/23	430173	3865952	6.6	3.5	60.0	0	0	See AERMOD Files
C114	11/20/23	430177	3865949	6.6	3.5	100.0	0	0	See AERMOD Files
C115	11/20/23	430168	3865946	6.6	3.5	60.0	0	0	See AERMOD Files
C116	11/20/23	430174	3865944	6.6	3.5	100.0	0	0	See AERMOD Files
C117	11/20/23	430170	3865933	6.6	3.5	60.0	0	0	See AERMOD Files
C118	11/20/23	430158	3865941	6.6	3.5	100.0	0	0	See AERMOD Files
C119	11/20/23	430150	3865955	6.6	3.5	75.0	0	0	See AERMOD Files

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		East (m)	North (m)						
C120	11/20/23	430153	3865971	6.6	3.5	75.0	0	0	See AERMOD Files
C121	11/20/23	430153	3865927	6.6	3.5	75.0	0	0	See AERMOD Files
C122	11/20/23	430161	3865925	6.6	3.5	75.0	0	0	See AERMOD Files
C123	11/20/23	430168	3865910	6.6	3.5	75.0	0	0	See AERMOD Files
C124	11/20/23	430173	3865910	6.6	3.5	75.0	0	0	See AERMOD Files
C125	11/20/23	430194	3865909	6.6	3.5	75.0	0	0	See AERMOD Files
C126	11/20/23	430207	3865899	6.6	3.5	75.0	0	0	See AERMOD Files
C127	11/20/23	430179	3865943	6.6	3.5	75.0	0	0	See AERMOD Files
C128	11/20/23	430179	3865935	6.6	3.5	75.0	0	0	See AERMOD Files
C129	11/20/23	430191	3865940	6.6	2.5	80.1	0	0	See AERMOD Files
C130	11/20/23	430178	3865927	6.6	2.5	80.1	0	0	See AERMOD Files

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		East (m)	North (m)						
C131	11/20/23	430205	3865950	6.6	3.0	125.0	0	0	See AERMOD Files
C132	11/20/23	430229	3865979	6.6	3.0	80.0	0	0	See AERMOD Files
C133	11/20/23	430251	3866009	6.6	3.5	60.0	0	0	See AERMOD Files
C134	11/20/23	430261	3866021	6.6	3.5	60.0	0	0	See AERMOD Files
C135	11/20/23	430235	3866002	6.6	3.5	75.0	0	0	See AERMOD Files
C136	11/20/23	430223	3866006	6.6	3.5	75.0	0	0	See AERMOD Files
C137	11/20/23	430247	3865979	6.6	3.5	120.0	0	0	See AERMOD Files
C138	11/20/23	430259	3865970	6.6	3.5	100.0	0	0	See AERMOD Files
C139	11/20/23	430239	3866001	6.6	3.5	40.0	0	0	See AERMOD Files
C140	11/20/23	430234	3866009	6.6	3.5	120.0	0	0	See AERMOD Files
C141	11/20/23	430224	3865959	6.6	3.5	60.0	0	0	See AERMOD Files

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		East (m)	North (m)						
C142	11/20/23	430177	3865880	6.6	3.5	100.0	0	0	See AERMOD Files
C143	11/20/23	430177	3865879	6.6	3.5	60.0	0	0	See AERMOD Files
C144	11/20/23	430178	3865879	6.6	3.5	100.0	0	0	See AERMOD Files
SCR101	11/20/23	430262	3866060	6.6	8.0	20.0	0	0	See AERMOD Files
SCR102	11/20/23	430260	3866092	6.6	8.0	20.0	0	0	See AERMOD Files
SCR103	11/20/23	430265	3866081	6.6	8.0	20.0	0	0	See AERMOD Files
SCR104	11/20/23	430325	3866123	6.6	8.0	20.0	0	0	See AERMOD Files
STP1	11/20/23	430229	3866057	25.0	60.0	60.0	0	0	See AERMOD Files
STP2	11/20/23	430234	3866036	25.0	60.0	60.0	0	0	See AERMOD Files
STP3	11/20/23	430309	3866075	25.0	60.0	60.0	0	0	See AERMOD Files
STP4	11/20/23	430288	3866155	25.0	60.0	60.0	0	0	See AERMOD Files

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		East (m)	North (m)						
STP5	11/20/23	430359	3866164	25.0	60.0	60.0	0	0	See AERMOD Files
STP6	11/20/23	430360	3866084	25.0	60.0	60.0	0	0	See AERMOD Files
STP7	11/20/23	430322	386632	25.0	60.0	60.0	0	0	See AERMOD Files
STP8	11/20/23	430198	3866003	25.0	60.0	60.0	0	0	See AERMOD Files
VGf101	11/20/23	430255	3865999	9.8	4.3	24.0	0	0	See AERMOD Files

AERMOD/AERMAP SPECIFICATIONS TABLE

MET DATA	GSP-GSO 2015-2019 [Surface = Greenville-Spartanburg, SC (972 ft MSL); Upper Air = Greensboro, NC]									
	ADJ_U*	<input checked="" type="checkbox"/>	(Y/N)							
NED TERRAIN FILES	Spartanburg, SC									
PROJECTION DATUM	NAD27	<input type="checkbox"/>	NAD83	<input checked="" type="checkbox"/>	WGS-84	<input type="checkbox"/>	NWS-84	<input type="checkbox"/>		
RURAL or URBAN?	Rural	<input checked="" type="checkbox"/>	Urban	<input type="checkbox"/>						
ELEVATIONS EXTRACTED	Buildings	<input checked="" type="checkbox"/>	Sources	<input checked="" type="checkbox"/>	Tanks	<input type="checkbox"/>	Receptors	<input checked="" type="checkbox"/>		

HISTORY

Date	By	Reason	Description
11/20/23	AJF	C/P	The facility has submitted the application to obtain a construction permit for a proposed aggregate mine and processing facility. AERMOD PM ₁₀ and PM _{2.5} modeling submitted for facility construction. This is the first modeling summary for this facility.

