



STATEMENT OF BASIS
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BAQ Air Permitting Division

Company Name:	Luck Stone – Fairfield I-77 Development	Permit Writer:	Lance Davis
Permit Number:	1000-0047-CA	Date:	January 14, 2022

DATE APPLICATION RECEIVED: April 8, 2021

FACILITY AND PROJECT DESCRIPTION (SIC CODE: 1423/NAICS CODE: 212313)

Luck Stone – Fairfield I-77 Development (the “facility”) has submitted a synthetic minor construction permit application for the construction of equipment associated with an aggregate mine and processing facility located north of Simpson Circle in Fairfield County, South Carolina.

Luck Stone proposes to construct an aggregate mine and processing facility capable of crushing 550 tons per hour. The process begins inside the pit where stone will be mined and transported by truck using the plant haul roads. Stone will be dumped into the primary jaw crushing station and will be crushed and conveyed to the first screening station, where the material will be screened and conveyed to storage piles or conveyed to a cone crusher or secondary screen.

Once at the secondary screen and cone crushing station, the material will be screened or crushed and then conveyed to storage piles, recycled back to the crushers/screens, or conveyed to the wash plant. The wash plant is not expected to emit dust as it is a totally wet process. The material will then be loaded from one of the storage piles into a customer truck that will then exit the site using customer haul roads.

The facility is proposing the following emission sources:

- Drilling
- Material Handling/Transport
- Material Storage
- Haul Roads
- Customer Roads

Emissions associated with aggregate processing, drilling, truck loading, and roads will primarily consist of particulate matter (PM), particulate matter with an aerodynamic diameter of 10 microns or less (PM₁₀), and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM_{2.5}). The facility is requesting federally enforceable synthetic minor limitations of less than 250.0 tons per year (TPY) of PM to avoid becoming a PSD major source and less than 100.0 TPY of PM₁₀ to avoid becoming a Title V major source.

The facility will utilize wet suppression to achieve these federally enforceable limitations. Each crusher, screen, and conveyor will be equipped with wet suppression via water spray valves to reduce dust emissions. Additionally, the facility will apply wet suppression via the use of mobile water trucks to mine hauling roads, aggregate storage piles, and customer access roads.

SOURCE TEST REQUIREMENTS

Emission unit ID 01 requires an initial source test in accordance with 40 CFR 60.11 and 40 CFR 60.675.

SPECIAL CONDITIONS, MONITORING, LIMITS

The facility is requesting federally enforceable limits of less than 100.0 TPY of PM₁₀ for Title V avoidance and less than 250.0 TPY of PM for PSD avoidance. The facility will demonstrate compliance with these limits by operation of its wet suppression systems in accordance with the construction permit.



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This facility is permitted at a maximum process weight rate of 550 tons per hour. To ensure the PSD and Title V limitations are being met, weekly monitoring of the wet suppression systems is required and is to be recorded and kept on-site for inspection. Any instances of any corrective actions must be noted. The Department may request to review these records should there be a question of compliance.

Should the wet suppression system not be operating properly, a portable water spray system is to be used until the permanent water spray system is back in proper operation. If a portable water system is not available, then the process shall be shut down until the permanent water spray is back in proper operation.

TOTAL PROJECT EMISSIONS						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM	91.69	401.59	8.48	37.14	92.18	<250.0
PM ₁₀	32.61	142.83	3.04	13.32	33.10	<100.0
PM _{2.5}	4.80	21.03	0.43	1.88	5.29	23.18
SO ₂	0.01	0.04	--	--	0.01	0.04
CO	4.24	18.59	--	--	4.06	17.78
NO _x	0.49	2.12	--	--	17.71	77.58
VOC	0.23	1.01	--	--	0.52	2.28

MATERIAL HANDLING AND PROCESSING EMISSIONS						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM	80.513	352.649	6.813	29.843	80.513	352.649
PM ₁₀	29.203	127.908	2.429	10.638	29.203	127.908
PM _{2.5}	4.422	19.369	0.352	1.541	4.422	19.369

MATERIAL STORAGE EMISSIONS (FUGITIVE)						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM	0.612	2.678	--	--	0.612	2.678
PM ₁₀	0.306	1.339	--	--	0.306	1.339
PM _{2.5}	0.046	0.203	--	--	0.046	0.203

MATERIAL TRANSPORTATION EMISSIONS (FUGITIVE)						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM	10.537	46.153	1.054	4.615	10.537	46.153
PM ₁₀	3.077	13.476	0.308	1.348	3.077	13.476
PM _{2.5}	0.308	1.348	0.031	0.135	0.308	1.348



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EXEMPT MOBILE GENERATOR EMISSIONS						
Pollutant	Uncontrolled		Controlled		PTE	
	lb/hr	TPY	lb/hr	TPY	lb/hr	TPY
PM	0.024	0.106	--	--	0.024	0.106
PM ₁₀	0.024	0.106	--	--	0.024	0.106
PM _{2.5}	0.024	0.106	--	--	0.024	0.106
SO ₂	0.009	0.039	--	--	0.009	0.039
CO	4.244	18.588	--	--	4.244	18.588
NO _x	0.485	2.124	--	--	0.485	2.124
VOC	0.230	1.009	--	--	0.230	1.009

OPERATING PERMIT STATUS

The facility will be issued coverage under the new general conditional major operating permit for nonmetallic mineral processing plants.

REGULATORY APPLICABILITY REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
Section II(E) – Synthetic Minor	Applicable – The facility is requesting Synthetic Minor limits of less than 250.0 TPY of PM to avoid PSD and less than 100.0 TPY of PM ₁₀ to avoid Title V.
Standard No. 1	Not Applicable – The facility does not have any applicable fuel burning sources.
Standard No. 3 (state only)	Not Applicable – The facility does not combust or reduce waste.
Standard No. 4	Applicable – Section VIII: Based on the facility's process rate of the Mining and Material Handling process line (550 tph), the process line will have an allowable PM emission limit of 70.10 lb/hr. The other processes (Material Storage, Haul Roads, Plant Roads) are fugitive in nature and are not subject to this Section of the Standard. Section IX: All sources shall not exhibit an opacity greater than twenty (20) percent. Section X: The facility is subject to this Section for all non-enclosed operations.
Standard No. 5	Not Applicable – The facility will not emit VOC in the quantities described in the Standard and was not in existence until after July 1, 1979 and July 1, 1980.
Standard No. 5.2	Not Applicable – The portable generator associated with this permit is considered exempt.
Standard No. 7	Not Applicable – The facility is requesting a PSD avoidance limit of less than 250.0 TPY of PM and PM ₁₀ .
61-62.6	Applicable – Fugitive PM emissions are controlled by wet suppression and should not emit undesirable levels of PM. The facility shall develop and implement a Department approved facility wide fugitive dust control plan.
40 CFR 60 and 61-62.60	Applicable – Subpart A: The facility is subject to this Subpart. Subpart OOO: Processing plant activities detailed in the rule are subject to this Subpart.



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REGULATORY APPLICABILITY REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
	Not Applicable – Subpart IIII: The facility will have a 550-kW diesel engine. It will not be subject to this Subpart because the non-road, non-stationary engine is considered portable. Subpart JJJJ: The facility does not have a stationary spark ignition internal combustion engine.
40 CFR 61 and 61-62.61	Not Applicable – No Subparts under this Part are applicable for this facility.
40 CFR 63 and 61-62.63	Not Applicable – Subpart ZZZZ: The facility will have a 550 kW diesel engine. It will not be subject to this Subpart because the non-road, non-stationary engine is considered portable.
61-62.68	Not Applicable – The facility does not store or use chemicals subject to 112(r) above the threshold quantities described by the regulation.
40 CFR 64 (CAM)	Not Applicable – The facility is not a Title V facility subject to CAM.

Explanation of Synthetic Minor Limits					
Permit ID	Equipment ID	Permit Issue Date	Pollutant	Emission Limit (TPY)	Explanation
CA	All	01-13-2022	PM	<250.0	The facility is requesting a <250.0 TPY PM emission limit to avoid PSD.
CA	All	01-13-2022	PM ₁₀	<100.0	The facility is requesting a <100.0 TPY PM ₁₀ emission limit to avoid TV.

Standard No. 4 Allowable					
Process	Process Weight Rate (tons/hr)	PM Allowable (lb/hr)	Uncontrolled Emissions PM (lb/hr)	Controlled Emissions PM (lb/hr)	Monitoring
Aggregate Processing	550	70.10	80.51	6.81	Weekly inspections of all wet suppression related equipment.

AMBIENT AIR STANDARDS REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
Standard No. 2	PM ₁₀ emissions from the facility are exempt but for conservatism, were modeled. Facility-wide PM _{2.5} emissions are also below the exemption level. No air toxics are emitted that require a compliance demonstration. Please see air dispersion modeling summary dated May 17, 2021.
Standard No. 7.c	
Standard No. 8 (state only)	



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PUBLIC NOTICE

This construction permit has undergone a 30-day public notice period, in accordance with SC Regulation 61-62.1, Section II(N), and SC Regulation 61-62.1, Section II(E) to establish synthetic minor limits. The comment period was open from July 1, 2021 to August 20, 2021. The draft construction permit, statement of basis, and permit application were placed on the BAQ website during that time period and comments were received.

Additionally, a public meeting took place on July 22, 2021 and a public hearing was held on August 5, 2021.

SUMMARY AND CONCLUSIONS

It has been determined that this source, if operated in accordance with the submitted application, will meet all applicable requirements and emission standards.