



**STATEMENT OF BASIS**  
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BAQ Air Permitting Division

<b>Company Name:</b>	Luck Stone – Fairfield I-77 Development	<b>Permit Writer:</b>	Lance Davis
<b>Permit Number:</b>	1000-0047-CA	<b>Date:</b>	DRAFT

**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 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 associated with the aggregate mine:

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

Emissions associated with the mining operation, processing plant, and roads will primarily consist of particulate matter (PM), particulate matter with an aerodynamic diameter of 10 microns or less (PM<sub>10</sub>), and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM<sub>2.5</sub>). 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 PM<sub>10</sub> 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 PM<sub>10</sub> for Title V avoidance and less than 250.0 TPY of PM for PSD avoidance.



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This facility is permitted at a maximum process weight rate of 550 tons per hour. At controlled emission rates using wet suppression, the facility will meet the PSD and Title V limitations detailed above. 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.

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

<b>MINING AND MATERIAL HANDLING EMISSIONS</b>						
<b>Pollutant</b>	<b>Uncontrolled</b>		<b>Controlled</b>		<b>PTE</b>	
	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>
PM	80.513	352.649	6.813	29.843	80.513	352.649
PM <sub>10</sub>	29.203	127.908	2.429	10.638	29.203	127.908
PM <sub>2.5</sub>	4.422	19.369	0.352	1.541	4.422	19.369

<b>MATERIAL STORAGE EMISSIONS (FUGITIVE)</b>						
<b>Pollutant</b>	<b>Uncontrolled</b>		<b>Controlled</b>		<b>PTE</b>	
	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>
PM	0.612	2.678	--	--	0.612	2.678
PM <sub>10</sub>	0.306	1.339	--	--	0.306	1.339
PM <sub>2.5</sub>	0.046	0.203	--	--	0.046	0.203

<b>MATERIAL TRANSPORTATION EMISSIONS (FUGITIVE)</b>						
<b>Pollutant</b>	<b>Uncontrolled</b>		<b>Controlled</b>		<b>PTE</b>	
	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>
PM	10.537	46.153	1.054	4.615	10.537	46.153
PM <sub>10</sub>	3.077	13.476	0.308	1.348	3.077	13.476
PM <sub>2.5</sub>	0.308	1.348	0.031	0.135	0.308	1.348



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<b>MOBILE GENERATOR EMISSIONS</b>						
<b>Pollutant</b>	<b>Uncontrolled</b>		<b>Controlled</b>		<b>PTE</b>	
	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>	<b>lb/hr</b>	<b>TPY</b>
PM	0.024	0.106	--	--	0.024	0.106
PM <sub>10</sub>	0.024	0.106	--	--	0.024	0.106
PM <sub>2.5</sub>	0.024	0.106	--	--	0.024	0.106
SO <sub>2</sub>	0.009	0.039	--	--	0.009	0.039
CO	4.244	18.588	--	--	4.244	18.588
NO <sub>x</sub>	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 a new general conditional major operating permit for nonmetallic processing plants.

<b>REGULATORY APPLICABILITY REVIEW</b>	
<b>Regulations</b>	<b>Comments/Periodic Monitoring Requirements</b>
Section II(E) – Synthetic Minor	Applicable – The facility is requesting Synthetic Minor limits of less than 250.0 TPY of PM avoid PSD and less than 100.0 TPY of PM <sub>10</sub> 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 <sub>10</sub> .
61-62.6	Applicable – Fugitive PM emissions are controlled by wet suppression and should not emit undesirable levels of PM.
40 CFR 60 and 61-62.60	Applicable – Subpart A: The facility is subject to this Subpart. Subpart OOO: Mining and material handling equipment detailed in the rule is subject to this Subpart.  Not Applicable –



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REGULATORY APPLICABILITY REVIEW	
Regulations	Comments/Periodic Monitoring Requirements
	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	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 pollutants in the quantities described by the regulation.
40 CFR 64 (CAM)	Not Applicable – The facility is no subject to CAM.

Explanation of Synthetic Minor Limits					
Permit ID	Equipment ID	Permit Issue Date	Pollutant	Emission Limit (TPY)	Explanation
CA	All	<b>DRAFT</b>	PM	<250.0	The facility is requesting a <250.0 TPY PM emission limit to avoid PSD.
CA	All	<b>DRAFT</b>	PM <sub>10</sub>	<100.0	The facility is requesting a <100.0 TPY PM <sub>10</sub> 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
Mining and Material Handling	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	Please see air dispersion modeling summary dated May 17, 2021.
Standard No. 7.c	
Standard No. 8 (state only)	

**TIMELINE OF EVENTS**

- April 9, 2021 – Synthetic minor construction permit application received.
- May 5, 2021 – Department requested via e-mail to the facility's consultant additional information regarding synthetic minor limitations, equipment emissions, working clock suspension, wet suppression use, the facility



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address, description clarification for equipment P17, potential non-electric dewatering pumps, Std. 4 applicability, and a request for the equipment IDs, dimensions, and capacity for the wash plant equipment.

- May 12, 2021 – Department received an e-mail response to the May 5, 2021 request addressing all points.
- June 18, 2021 – Department requested, received, and updated drafts with information regarding Tier 4 generator emissions calculations.

**PUBLIC NOTICE**

This construction permit has undergone a 30-day public notice period, in accordance with SC Regulation 61-62.1, Section II.N to establish synthetic minor limits. The comment period was open from **DATE** to **DATE**. The draft construction permit and draft statement of basis were placed on the BAQ website during the comment period.

**COMMENTS RECEIVED?**

**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.

