



**SOUTH CAROLINA
ENVIRONMENTAL
LAW PROJECT**

Lawyers for the Wild Side

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June 15, 2021

VIA EMAIL and U.S. MAIL

Jeremy E. Eddy, Project Manager
S.C. Department of Health and Environmental Control - BLWM
Division of Mining and Solid Waste Management
2600 Bull Street
Columbia, SC 29201

Re: Mine Operating Permit Application I-002329
Luck Stone Corporation
Fairfield I-77 Quarry Fairfield County

Dear Mr. Eddy,

I am submitting this letter on behalf of the Lyles family to share their opposition to the above-referenced application for Luck Stone Corporation’s Mine Operating Permit pertaining to the proposed granite and gneiss mine located at the intersection of S.C. Highway 34 and Simpson Circle in Fairfield County, approximately 3.5 miles west of Ridgeway, South Carolina.

The Lyles Family is comprised of several adjacent and nearby owners who share grave concerns about the project as proposed and appreciate the opportunity to offer public comment on the Luck Stone Mine. This letter is intended to pertain to all forthcoming permitting processes that are relevant to the subjects this letter addresses and is in addition to any separate comment letters members of the Lyles Family may submit.

I. PROJECT OVERVIEW

Luck Stone Corporation has applied to DHEC for a 100-year permit to mine granite and gneiss at a 416.8-acre site located north of SC Highway 34, east of Barber Road in the vicinity of the intersection of S.C. Highway 34 and Simpson Circle in Fairfield County, approximately 3.5 miles west of Ridgeway, South Carolina (TMS #166-00-00-028-000, 166-00-00-018-000, and 166-00-00-030-000). The application provides that the project will require an Air Construction permit and will have at least one point source discharge requiring an NPDES Permit; however, no information was provided to the public on the latter permit.

a. *The Site*

Of the three (3) tax parcels combined to create the mine’s proposed 416.76-acre site, the proposed project involves a 259.5-acre affected area, a 77.9-acre area reserved for future impacts, and 79.4 acres of buffer. The site is located within the Catawba River basin adjacent to the

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watershed divide by the Broad River. Headwaters of Dutchman's Creek are within or near the site. Of the on-site water features, there are sixteen (16) jurisdictional wetlands totaling 1.18 acres and the applicant's agent has stated these are "classified as riparian abutting forested wetlands, headwater wetlands (forested, scrub-shrub), and linear wetlands." *See generally*, Attachment A, Jurisdictional Determination.

Luck Stone's proposed quarry site also contains twenty-three (23) jurisdictional tributaries ranging from two to fifteen feet (2-15') in width which encompass 1.93 acres or 16,314 linear feet (LF) of the site. The site also contains one (1) non-jurisdictional wetland and twenty-four (24) non-jurisdictional ephemeral drainages encompassing 8,024 LF. *Id.* The applicant's agent stated the site contains approximately 3.11 acres of jurisdictional waters, all of which are part of Dutchman's Creek and, ultimately, Lake Wateree. *See* S.C. Code Ann. § 50-1-50; *see also* Attachment B, MR-400 ("Headwaters of Dutchmans Creek is within or near the site. Ephemeral and intermittent streams that are tributaries to Dutchmans Creek run through the site.") The average depth of mining will be approximately 595 feet from the ground surface with a maximum depth of 650 feet. The final pit floor elevation will be -80 feet msl. According to the permit application, "granite will be drilled, [and] explosives loaded and blasted to fragment stone into manageable sizes to facilitate loading into haul trucks and crushing by primary crusher." *Id.*

a. The Lyles Family

At the outset, the Lyles family believes the information in the permit notice to be woefully inadequate and they remain troubled by the unresolved key questions and crucial data gaps. As such, there are simply too many unanswered questions to allow Luck Stone's mine project to proceed. It takes little more than common sense to recognize the magnitude of the mining activity proposed by Luck Stone and the significant long-term impacts that will follow. The initial mining segment *alone* includes dozens of impacted acres for excavation and sediment control, processing areas, overburden storage, access/haul roads, and rail spurs. The community has grave safety concerns surrounding the potential water quality, hydrologic, and seismic cumulative impacts of this proposal, in addition to discharges associated with this project.

Moreover, this tract has history. I am writing to you on behalf of the Lyles Family, a family who has called the western Broad River basin and Fairfield area home since the 1700s¹ and one that is well-represented on Luck Stone's Parcel and Cultural Resources Reconnaissance Surveys.² The Lyles Family believes the cultural resources survey submitted with the application contains inaccurate and incomplete information. The proposed quarry is surrounded by land that the Lyles family has been stewards of for nearly a century, the same permit term Luck Stone has requested for its quarry. This land is where the Lyles family played as children, raised their children, and now enjoy time with their grandchildren, and they are deeply concerned that the proposal does not protect their families or land. Of particular concern to the Lyles Family is the limited scope of

¹ *See, i.e.*, McMaster, Fitz, HISTORY OF FAIRFIELD COUNTY SOUTH CAROLINA FROM "BEFORE THE WHITE MAN CAME" TO 1942

(1946)[http://fairfieldgenealogysociety.org/Members_Only/PDF/Books/History%20of%20Fairfield%20county,%20South%20Carolina%20from%20before%20the%20whiteman%20came.pdf] (discussing the Lyles of Fairfield County).

² [available at: https://scdhec.gov/sites/default/files/media/document/BLWM_FairfieldQuarry_CulturalResourceReport.pdf]

the *Cultural Resources Reconnaissance Survey* submitted with the application, which they believe contains inaccurate and incomplete information. They worry that with an incomplete picture, certain sites will not be designated on the National Register of Historic Places and end up destroyed, damaged or completely removed by this project.

In one such example, the Lyles family is aware of a relative named Colonel John L. Black, who is discussed at length in the *Cultural Resources Reconnaissance Survey*.³ As nearby owner and Lyles family member, John T. M. Lyles, said: “This [Cultural and Historical] aspect of the project is especially bothersome for our family as we have known of Colonel Black’s homesite and mill site since we were children and hiked there with our father.” Parts of the old home, including the chimney, well and a nearby grist mill exist to this day and should be protected. Another historic resource of concern to the family is the Homer Church graveyard. The graveyard is small and the final resting place for the ancestors of the Jones-Vaughn-Blair Stagecoach, which is on the National Historic Register. The Lyles family is worried runoff from the project will flow across the cemetery obliterating some of the small unidentifiable gravestones or blast effects that will further damage crypts that already have significant cracks across their stone covers. One member of the Lyles Family, Pelham Lyles, helps other families visit their ancestors in the cemetery, stating: “The crypts are in bad condition. As a historian and museum director, I often have led descendants of those families to visit their ancestors’ graves.” Pelham also worries about the artifacts nearby that may be lost in runoff or debris from the quarry because she has found such artifacts herself, stating she’d once found “the front door brass doorknob (ornate Victorian raised pattern) to the little church that used to sit in the cemetery. Parts of this structure were salvaged and used to construct St. Mark’s Baptist first wooden church just across the railroad and Highway 34.” The family also worries the quarry operations will lead to restricted access to this cultural site and prevent the families they help from visiting their loved ones.

The tremendous scale of this project and what is at stake here cannot be overstated. It is a massive operation that will permanently alter its surroundings. We are not talking about an activity that will occur at some remote location where adjustments can be readily made and risks absorbed without lasting damage. This massive mine is being proposed right in the middle of a residential community with deep roots and significant cultural and historical connections to the land. Subjecting this community to 100 years of substantial environmental degradation and destruction to their quality of life and environment is egregiously compounded by the fact that the true extent of the risks involved remain unknown. The Lyles Family is rightly concerned that without a complete picture of the rich history this land has seen, its precious historical, archaeological, and burial sites will be removed or damaged by this project and request a more thorough cultural resource study and plan to save these historic structures. The family has discussed their concerns on the impacts this project will have on culture and history with both Luck and DHEC and hopes their efforts will protect these special places.

It is important to the Lyles Family that their family and community history is preserved because it is also Fairfield County history that belongs to all South Carolinians. To that end, they ask that the entire site be reassessed for the protection of the precious cultural and archaeological artifacts they know exist. They further respectfully request your agencies make a reasonable and

³ See *Cultural Resources Reconnaissance Survey*, pp. 53-54 [available at : https://scdhec.gov/sites/default/files/media/document/BLWM_FairfieldQuarry_CulturalResourceReport.pdf]

good-faith effort to consider their recommendations, requests, and concerns throughout this letter to ensure the land, water, and air they shared with their community is preserved for future generations to do the same. This project cannot move forward until the safety of the community is ensured.

II. APPLICABLE LAW

As set forth below, Luck Stone's application to modify/expand its mine should be denied due to South Carolina's applicable statutes, regulations, and rules governing mining activity, including, but not limited to: (1) S.C. Mining Act, S.C. Code Ann. § 48-20-10, *et seq.*; (2) S.C. Code Regs. 89-10. *et seq.*; (3) S.C. Code Regs. 61-68 and 61-69; (4) Stormwater Management and Sediment Reduction Act, S.C. Code Regs. 72-300, *et seq.*; (5) S.C. Code Regs. 61-9, *et seq.*; (6) S.C. Pollution Control Act, S.C. Code Ann. § 48-1-10, *et seq.*; and S.C. Code Regs. 61-62, *et seq.*; (7) Clean Air Act, 42 U.S.C. § 7401, *et seq.* (8) the South Carolina Administrative Procedures Act, S.C. Code Ann. § 1-23-310, *et seq.* (9) S.C. Code 61-62, including 61-62.6, Control of Fugitive Particulate Matter; and Chapter 89.

a. *The S.C. Mining Act*

The S.C. Mining Act, S.C. Code Sec. 48-20-10, *et seq.* and accompanying mining regulations at S.C. Code Reg. 89-10, *et seq.* provide specific standards and prohibitions governing what mining activities may be permitted by DHEC. The purpose of the South Carolina Mining Act is to provide that "no mining may be carried on in the State unless plans for the mining include reasonable provisions for the protection of the surrounding environment and for reclamation of the area of land affected by mining" S.C. Code Ann. § 48-20-20. The Act specifically provides that the department ***shall*** deny an operating permit upon finding that South Carolina law prohibits mines that will: have undue adverse effects on wildlife or freshwater fisheries; violate standards of air quality, surface water quality, or groundwater quality; constitute a substantial physical hazard to a neighboring house, school, church, or public road; and where previous experience with similar operations indicates a substantial possibility that the operation will result in substantial deposits of sediment in stream beds, or an operator has existing uncorrected violations. S.C. Code Ann. § 48-20-70.

i. **S.C. Code Ann. § 48-20-70 (1) a requirement of this chapter or a regulation promulgated under it is to be violated by the proposed operation**

Both the Corps/EPA regulations and the DHEC 401 water quality regulations require denial of permits/certifications for avoidable wetlands impacts.⁴ Therefore, the applicant must be required to fully assess all alternatives to avoid and minimize wetland impacts before considering compensatory mitigation. *See* DHEC's Mitigation Guidelines (requiring applicants to "avoid and minimize wetland impacts before considering compensatory mitigation").⁵ DHEC's 401 Water Quality Certification program requires that the agency consider all potential water quality impacts of the project, both direct and indirect, over the life of the project including:

⁴ See 40 CFR 230.10

⁵ Available at https://scdhec.gov/sites/default/files/docs/Environment/docs/Mitigation_Guidelines.pdf

- (a) Whether the activity is water-dependent and the intended purpose of the activity;
- (b) Whether there are feasible alternatives to the activity;
- (c) All potential water quality impacts of the project, both direct and indirect, over the life of the project including:
 - (1) Impact on existing and classified water uses;
 - (2) Physical, chemical, and biological impacts, including cumulative impacts;
 - (3) The effect on circulation patterns and water movement;
 - (4) The cumulative impacts of the proposed activity and reasonably foreseeable similar activities of the applicant and others. S.C. Code Regs. R. 61-101(F)(3)(c).⁶

Further, the regulations explicitly state that certification **will** be denied if: (a) the proposed activity permanently alters the aquatic ecosystem in the vicinity of the project such that its functions and values are eliminated or impaired; or (b) there is a feasible alternative to the activity, which reduces adverse consequences on water quality. S.C. Code Regs. 61-101(F)(5). Here, the impacts Luck Stone has proposed to Dutchman’s Creek—including its headwaters and associated wetlands—will be devastating to the water quality of the creek. As stated on p. 5 of 9 of Form MR-400:

The site is located within the Catawba River basin adjacent to the watershed divide by the Broad River. Headwaters of Dutchman’s Creek is within or near the site. Ephemeral and intermittent streams that are tributaries to Dutchman’s Creek run through the site...Access road and haul road crossings will impact Corps of Engineers jurisdictional streams in 3 locations. Also, it will be necessary to impact jurisdictional streams and wetlands within Pit Phases 1 & 2 and Initial Process Plant Area to allow for a coherent mine plan.

See Attachment B, p. 5 of Form MR-400; *see also* S.C. Code Ann. § 48-20-70 (6) (noting “previous experience with similar operations indicates a substantial possibility that the operation will result in substantial deposits of sediment in stream beds or lakes, landslides, or acid water pollution”).

Here, the project drawings demonstrate that some mining could occur without filling or excavating the majority of onsite waters and wetlands. Under no circumstances should jurisdictional streams and wetlands be excavated to allow Luck Stone to raid the material below Pit Phases 1 or 2 unless and until its design layout shows effort to work around existing wetland features to the maximum extent possible. The applicant should be required to resubmit their application after they have gone back to the drawing board to more thoughtfully and strategically achieve their goal with fewer wetland impacts. Certainly, the applicant could reduce or eliminate impacts to wetlands by scaling down or reconfiguring the footprint of the overall mine plan. For instance, the access and haul roads could be shifted away from onsite wetlands. Alternatively, the total number of mined acres could be reduced to avoid the wetlands and floodplain area. These are just some feasible alternatives that would allow the project to proceed without undue harm to

⁶ The Corps must also evaluate the probable impacts, including cumulative impacts, of the project on the public interest and weigh any perceived benefits against reasonably foreseeable detriments. *See* 33 CFR § 320.4(a). Because wetlands constitute a productive and valuable public resource, their unnecessary alteration or destruction “should be discouraged as contrary to the public interest.” *Id.*

valuable public resources. Rather than expanding into and destroying wetlands to create additional mining areas, the applicant must be required to conduct a more thorough alternatives analysis and demonstrate the extent to which substantial environmental impacts have been minimized. The applicant should only be permitted—if at all—to encroach into wetlands after fully exhausting the development potential of those uplands.

ii. S.C. Code Ann. § 48-20-70 (2) the operation will have undue adverse effects on wildlife or freshwater, estuarine, or marine fisheries

In South Carolina, the Department of Natural Resources is charged with administering and enforcing the laws of this State relating to wildlife, marine resources, and natural resources, and other laws specifically assigned to it. *See* S.C. Code Ann. §48-4-10; *see also* §50-3-80, §48-4-80. State Wildlife Action Plans (SWAP) are developed by U.S. states and territories for conserving wildlife and habitat before they become too rare or costly to restore. In 2005, all 50 States and five U.S. Territories developed a SWAP that includes the identification of Species of Greatest Conservation Need (SGCN) for that state. Revisions to the SWAPs occurred in 2015 with all 50 States and five U.S. Territories submitting their current plans for review and compilation into a national list.

Here, there are several fish species of conservation concern as designated by the South Carolina SWAP, collected by SCDNR biologists in Dutchman’s Creek, which flows through the site and may be impacted by mining activities.⁷ These species are Swallowtail Shiner (*Notropis Procne*), Rosyside Dace (*Clinostomus fundu/oides*), Highfin Shiner (*Notropis Altipinnis*), and Highback Chub (*Hybopsis Hysinotus*). SWAP species are those species of greatest conservation need not traditionally covered under any federally funded programs. Moreover, Luck Stone proposes to cross water bodies that support various species of fish. Equipment moving through a stream and the trenching of a water body can physically damage fish, while fuel spillage into the stream will increase toxicity levels and further harm fish. In-stream construction over an extended period can delay or prevent fish from reaching spawning sites or can delay downstream movement of smolts. In-stream structures for equipment crossings can similarly impact fish. Short-term habitat impacts will occur with trenching at the crossing sites. Additionally, sediment stirred into the water column may be re-deposited on downstream habitats. Long-term degradation of habitat patterns can occur if the stream contours are modified in the area of the crossing, if the flow patterns are changed, and if erosion of the bed, banks, or adjacent upland areas introduces sediment into the stream.

This mine will also result in habitat fragmentation by destroying the corridor through previously contiguous forests. The MR-400 states that the land will also be cut for timber, causing species to be displaced from habitats that are cleared of vegetation and from areas adjacent to the construction sites. Habitat fragmentation contributes to higher rates of nest predation in grasslands and allows predators to access birds’ breeding sites along newly created corridors.⁸ Some species

⁷ *See* Attachment C, DNR letter of May 14, 2021; *See also* <https://www.dnr.sc.gov/swap/main/2015StateWildlifeActionPlan-chapteronly.pdf>

⁸ The degradation is compounded by Luck’s refusal to institute the minimum 100-foot buffer proposed by DNR. *Compare* Attachment C at pp. 1-3 (DNR stating: “A literature review performed by Castelle et al (1994), found that buffers must be 30 meters (100 ft) wide to maintain the health of the biota in nearby streams, but that this width would

might be directly impacted by construction if construction vehicles traveling to and from construction sites kill them. Construction of the proposed action through upland forests will necessitate the removal of hardwood forest and will remove its habitat features for the long term, while construction through existing shrub-dominated habitats will produce short-term habitat loss. Overall, there will be a long-term loss of all vegetation types and the wildlife is likely to be further impacted by increased vehicular traffic, noise, and human presence. Because this project is likely to result in unacceptable adverse effects on our wildlife and fisheries, we ask that this project proposal be denied. In the alternative, we request that a full species survey be performed before any decision is made regarding the permit.

iii. S.C. Code Ann. § 48-20-70 (3) the operation will violate standards of air quality, surface water quality, or groundwater quality which have been promulgated by the South Carolina Department of Health and Environmental Control

In addition to our concern about the mine plan's adverse impacts on the surrounding habitats, we share the concerns of many nearby residents who depend on wells for their sole source of drinking water. Luck Stone's plan does not contain adequate information concerning how its proposed blasting, dewatering, dredge/fill, discharge, and onsite wastewater plans will impact the air, groundwater, or surface water.

1. Air Quality

With the Midlands region threatened by “nonattainment” status in recent years, the Central Midlands Council of Governments—which includes Fairfield County—has said that it has “become paramount that proactive measures be taken for improving air quality and ensuring attainment with current and future national ambient air quality standards.”⁹ To carry forth its efforts, it created Clean Air Midlands, a task force intended to promote regional cooperation to improve air quality. *Id.* A review of Luck Stone's application evidences numerous proposed activities that will result in the emission of fugitive dust outside of activities associated with the processing plant at the quarry that should be considered in this application, including drilling, blasting, loading, hauling, crushing, and conveyance of crushed materials.¹⁰ Additional dust and

need to be increased for steeper slopes. Peterjohn and Correll (1984) found that for a 5% slope, only ninety percent of the suspended sediment was trapped in the first 19 meters {62 ft} and that the entire 60-meter (164 ft) buffer trapped only 94% of the sediment. Due to the steep slopes on the site, the SCDNR requests that onsite and offsite aquatic resources be protected by vegetated buffers at least 100-foot wide wherever practicable” with Attachment D at 1-2 (Luck stating: “...We believe that the proposed 75-foot wide buffer, along with the best management practices included in the E&SC plans submitted, are adequate measures to protect the nearby water features, instream habitats, and will reduce off-site impacts.”) We ask that this project proposal be denied; however, if this project is allowed to proceed, all of DNR's recommendations, including, but not limited to, its requests for at least 100-foot buffers and to relocate monitoring wells MW-3D and MW-4S, must be included.

⁹ <https://centralmidlands.org/about/air-quality.html>; *see also* http://www.centralmidlands.org/pdf/Midlands_AQ_Report.pdf

¹⁰ The Lyles family also questions a line Luck Stone repeatedly noted in its Air Construction Permit application: “While the facility will have a 550-kilowatt diesel-fired generator (P5), the generator is not considered a stationary source as it will be a portable, nonroad, non-stationary engine. Therefore, the diesel-fired generator is not subject to air permitting and is not subject to 40 CFR Part 60 Subpart IIII or 40 CFR Part 63 Subpart ZZZZ;” however, a portable non-road engine becomes stationary if it stays in the same location for more than 12 months and requirements are also

emissions associated with the granite mining activities will mostly be generated by vehicle movement. Of its emissions, Luck Stone's application states:

Mining and aggregates plants are not one of the 28 source categories subject to the 100 tpy PSD major source threshold. Total uncontrolled potential emissions of particulates exceed the 250 tpy threshold. However, the facility requests federally enforceable facility-wide emission limits for PM to remain below the PSD major source threshold of 250 tpy and for PM and PM10 Title V threshold of 100 tpy.

See *Air Construction Permit Application*, p.7¹¹ (emphasis added). However, the term "major emitting facility" also includes "any other source with the potential to emit two hundred and fifty tons per year or more of any air pollutant." See 42 U.S.C. § 7479; see also Section 7.1.2 of DHEC's Modeling Guidelines for Air Quality Permits¹² ("A PSD Review is required for a facility if the increase in emissions, as a result of the new or modified source(s), of any of the pollutants listed in Table 7.1 is greater than the applicable PSD threshold value. The PSD threshold value is: 1) 100 TPY, if the facility is listed in one of 28 industrial categories defined in Standard No. 7; or 2) 250 TPY, if the facility is not in one of the 28 industrial categories."). Because its emissions exceed the 250 tpy threshold, Luck Stone should be considered a major emitting facility subject to PSD review.

Moreover, Luck Stone should develop and submit a formal dust monitoring and mitigation plan as a requirement of the Operating Permit to ensure consistency with best management practices and current industry practice to minimize fugitive dust emissions and associated air quality impacts. Luck Stone should also have a plan that accounts for the: a) identification and classification of fugitive dust emission sources; b) identification of the sources of fugitive dust emissions; c) fugitive dust characterization; and d) development and implementation of the BMP plan, plus training and inspection/maintenance. An air quality monitoring and mitigation plan for Luck Stone Quarry should also consider the installation of air monitors¹³ near haul road and/or rock processing areas due to the nearby owners and wells and the fact that DHEC monitors concentrations of six pollutants the EPA has designated as criteria pollutants: Carbon monoxide (CO), Nitrogen dioxide (NO₂), Ozone (O₃), Lead (Pb), Inhalable particulate matter (PM_{2.5} and PM₁₀), and Sulfur dioxide (SO₂); however, no monitoring stations are located in Fairfield County.¹⁴ Given the magnitude of the proposed activity and its potential to result in significant air quality impacts to the residents of Fairfield County who are fighting to keep clean air, DHEC should deny Luck's Air Construction permit application.

dependent on whether a facility has a new or existing engine, a compression-ignition or spark ignition engine, or an "emergency use only" or "non-emergency use" engine.

¹¹[available at:

https://scdhec.gov/sites/default/files/media/document/BAQ_FairfieldQuarry_AirConstructionPermitApplication.pdf]

¹² [available at:<https://scdhec.gov/sites/default/files/media/document/Air-Modeling-Guidelines-2018.10.15.pdf>]

¹³ Optimally, Luck would share these results with nearby owners voluntarily or as a permit condition.

¹⁴ See <https://scdhec.gov/environment/your-air/ambient-air-monitoring-network>; see also <https://gis.dhec.sc.gov/monitors/>

2. Surface Water Quality

The purpose of the Pollution Control Act is “to maintain reasonable standards of purity of the air and water resources of the State, consistent with the public health, safety and welfare of its citizens, maximum employment, the industrial development of the State, the propagation and protection of terrestrial and marine flora and fauna, and the protection of physical property and other resources.” S.C. Code Ann. § 48-1-20. Under S.C. Code §48-1-10, *et seq.*, South Carolina’s water quality standards are promulgated in S.C. Regulation 61-68, which sets forth the classifications of our state’s waters and establishes water quality standards that protect and maintain the existing and classified uses of those waters. Those beneficial uses, along with criteria set to protect and maintain those uses are all required components of the Clean Water Act (CWA). S.C. Regulation 61-69, Classified Waters, is a compilation of many of the waters of the State listed by name, location, description, classification, and designation. Under those regulations, Dutchman’s Creek is classified as Freshwater and it is already impaired due to fecal coliform bacteria.¹⁵ Dutchman’s Creek and its tributaries also have TSS/turbidity issues and activities in the project area may have contributed to the sediment loading already observed by DHEC.¹⁶

Moreover, since 2014, both Lake Wateree and Dutchman’s Creek have been plagued by harmful algae blooms known as *Lyngbya wollei*.¹⁷ *Lyngbya wollei* is a symptom of freshwater ecosystem degradation and produces several unique saxitoxins and volatile organic compounds (VOCs) that are responsible for a musty-earthy taste and odor in water, which affect aesthetics and recreational water uses.¹⁸ Both physical and chemical factors contribute to the formation and persistence of cyanobacterial blooms in freshwater systems, including light availability, water temperature, alteration of water flow, vertical mixing, pH changes, nutrient loading (both nitrogen and phosphorus), and trace metals.¹⁹ One study notes that when an issue with suspended solids arises, it can be attributed more to stone type—particularly granite—than to any other factor.²⁰ *Lyngba Wollei* has been documented to produce numerous toxins that can negatively impact irrigated crops, livestock, wildlife, and humans.²¹ Typically, massive cyanobacteria blooms in marine or freshwater systems are associated with eutrophication.²² Other studies have reported that the sediments in a pond that hosted a massive infestation of *Lyngba wollei* were often high in calcium and phosphorus.²³ Quarrying activities are a known cause of increased phosphorus in

¹⁵ https://scdhec.gov/sites/default/files/docs/HomeAndEnvironment/Docs/tmdl_dutchmans_fc.pdf

¹⁶ *Compare*

<https://scdhec.gov/sites/default/files/media/document/Final%20Big%20Wateree%20Creek%20Report.pdf>

(“SCDHEC staff familiar with the Big Wateree Creek area and CAW have also reported anecdotal observations that extensive timber harvesting has been and is taking place widely within the watershed since the 2016/2017 study time period.”) with *Cultural Resources Reconnaissance Survey*, p. 8 (timber harvest and eroded soils in the project area).

¹⁷ <https://www.thestate.com/news/local/environment/article247965005.html>; *see also*

<https://www.thestate.com/news/local/environment/article234003057.html>

¹⁸ <https://www.journals.uchicago.edu/doi/10.1086/675932?mobileUi=0>

¹⁹ Schindler DW (1977) The evolution of phosphorus limitation in lakes. *Science* 195: 260–262; *see also* <https://www.epa.gov/cyanohabs/causes-cyanohabs>

²⁰ https://www.epa.gov/sites/production/files/2015-10/documents/mineral-mining_dd-vol_1_1975.pdf

²¹ <https://link.springer.com/article/10.1007/s13201-019-1068-8>

²² Schindler DW (1977) The evolution of phosphorus limitation in lakes. *Science* 195: 260–262.

²³ Speziale BJ, Dyck LA (1992) *Lyngbya* infestations: comparative taxonomy of *Lyngbya wollei* comb. nov. (cyanobacteria). *J. Phycol.* 28: 693–706

waterbodies.²⁴ Several activities that can be anticipated from this quarry can cause increases in sediment and nutrients, such as an increase in paved surfaces, runoff, blasting, and drainage.²⁵

Amounting to fifty-three percent (53%) of the total stream miles in the continental United States, headwater streams are the lifeblood of our nation's water bodies.²⁶ This site contains the headwaters for Dutchman's Creek. *See* Attachment B, MR-400 ("Headwaters of Dutchmans Creek is within or near the site. Ephemeral and intermittent streams that are tributaries to Dutchmans Creek run through the site. . . . Access road and haul road crossings will impact Corps of Engineers jurisdictional streams in 3 locations. Also, it will be necessary to impact jurisdictional streams and wetlands within Pit Phases 1 & 2 and Initial Process Plant Area to allow for a coherent mine plan."). Over 1.9 million South Carolinians rely on headwater, rainfed, and seasonal streams for their drinking water.²⁷ The EPA says that because upstream wetlands and floodplains are physically, chemically, and biologically integrated with rivers via functions that improve downstream water quality, "the incremental contributions of individual streams and wetlands are cumulative across entire watersheds, and their effects on downstream waters should be evaluated within the context of other streams and wetlands in that watershed."²⁸ Despite being the smallest part of river and stream networks, headwater streams play a critical role in trapping floodwaters, recycling nutrients, recharging groundwater supplies, removing pollution, providing fish and wildlife habitat, and aiding in the overall sustainability of downstream river, lake, and stream health.²⁹ Loss of the Dutchman's Creek headwater stream systems would mean a loss of species biodiversity and a decrease in efficient ecosystem processes such as nutrient cycling, organic matter decomposition, and the movement of energy and resources through the food chain.³⁰ Because headwaters support a composition of species uncommon in larger streams, headwater streams in the southeastern coastal plain contribute importantly to biodiversity.³¹ Moreover, there are numerous ponds nearby belonging to neighboring residents that must be protected from Luck Stone's activities.³² DHEC

²⁴ <https://www.conservationcouncil.ca/blue-green-algae-heres-what-you-need-to-know-2/>

²⁵ <https://scdhec.gov/environment/your-water-coast/harmful-algal-blooms>

²⁶ <https://archive.epa.gov/water/archive/web/html/streams.html#:~:text=About%2053%20percent%20of%20the,unknown%2C%20unnamed%20and%20underappreciated%20streams.>

²⁷ [https://www.epa.gov/sites/production/files/2015-](https://www.epa.gov/sites/production/files/2015-06/documents/2009_10_15_wetlands_science_surface_drinking_water_surface_drinking_water_sc.pdf)

[06/documents/2009_10_15_wetlands_science_surface_drinking_water_surface_drinking_water_sc.pdf](https://www.epa.gov/sites/production/files/2015-06/documents/2009_10_15_wetlands_science_surface_drinking_water_surface_drinking_water_sc.pdf)

²⁸ U.S. EPA. *Connectivity of Streams and Wetlands to Downstream Waters: A Review and Synthesis of the Scientific Evidence (Final Report)*. U.S. Environmental Protection Agency, Washington, DC, EPA/600/R-14/475F, 2015.

²⁹ Also, Luck Stone indicated an NPDES permit would be required for its mine dewatering and wash water; however, no information on the NPDES permit is provided. Despite the fact the project's NPDES information is not available to fully comment, the details of Luck Stone's project illustrate its activities will clearly cause adverse impacts which disqualify it from coverage under the General Permit and warrant submission to the individual NPDES permit review process. S.C. Code Regs. 61-9, 72-300, *et seq.* On p. 4 of 9 of Form MR-400, DHEC requests the applicant provide information on any point source discharge from the mine requiring an NPDES Permit. DHEC has erred by only allowing public comment before all information is available to interested parties and the public notice period should extend past the date DHEC makes the entire application package available to the public and all interested parties.

³⁰ Wipfli MS, Richardson JS, Naiman RJ. Ecological linkages between headwaters and downstream ecosystems: Transport of organic matter, invertebrates, and wood down headwater channels. *JAWRA Journal of the American Water Resources Association*. 2007; 43(1):72–85. doi: 10.1111/j.1752-1688.2007.00007.x.

³¹ Paller M.H. (1994) Relationships between Fish Assemblage Structure and Stream Order in South Carolina Coastal Plain Streams, *Transactions of the American Fisheries Society*, 123:2, 150-161, DOI: [10.1577/1548-8659\(1994\)123<0150:RBFASA>2.3.CO;2](https://doi.org/10.1577/1548-8659(1994)123<0150:RBFASA>2.3.CO;2)

³² Compare *Limited Hydrogeologic Assessment* at p 7. ("Five ponds can be observed on Google Earth imagery (December 2019), and the ponds are located approximately 900 feet west, 2,900 feet north northwest, 2,700 feet east

cannot approve this process without assessing the effects 100 years of cumulative impacts from the quarry will have on these waters' quality, circulation patterns, and movement.

There are also water quality concerns from the proposed on-site practices. DHEC's Stormwater BMP Handbook states, "The following design methodology (Hayes et al. 1995) may be used to design sediment basins to meet the 80 percent trapping efficiency requirements for TSS, which has a drainage area limitation of **30 acres**."³³ (*emphasis added*). However, Luck Stone's Comprehensive Stormwater Pollution Prevention Plan (C-SWPPP) notes that Sediment Basin P-SB-1 has a drainage area of 44.47 acres. *See also* S.C. Code Ann. § 48-20-70 (6) (noting "previous experience with similar operations indicates a substantial possibility that the operation will result in substantial deposits of sediment in stream beds or lakes, landslides, or acid water pollution."); R. 89-120(C)(1)(b) ([S]ediment and erosion control measures to prevent degradation of the environment shall consist of...[r]etaining sediment within the pit and disturbed area."). The applicant's activities may have already encouraged sedimentation. *Compare* SC DHEC Stormwater BMP Handbook at SB-2 ("Located near the site's perimeters, sediment basins can be created by the building of an embankment or through excavation, when the topography is relatively flat. Careful planning is necessary, during both design and construction phases, to ensure that sediment basins are not placed within Waters of the State (WoS) and are *installed prior to the implementation of mass clearing, grubbing, and grading activities.*") with Luck Stone's Comprehensive Stormwater Pollution Prevention Plan (C-SWPPP), p. 5 ("Drainage areas that contribute stormwater runoff to each proposed sediment basin were delineated considering development or construction conditions *during initial site clearing.*").

As proposed, the project will impact water quality. The regulations direct that "[a]ll existing water uses and the level of water quality necessary to protect those uses must be maintained and protected under all circumstances." S.C. Code Ann. Regs. 61-68.D.1 (*emphasis added*). Further, the project is likely to contravene state water quality standards which are intended "to maintain and improve all surface waters to a level to provide for the survival and propagation of a balanced indigenous aquatic community of flora and fauna and to provide for recreation in and on the water." S.C. Code Ann. Reg. 61-68.F.(1)(a). Given the magnitude of the proposed activity and its potential to continue to result in significant direct, indirect, and cumulative impacts, including, but not limited to, impacts on surface water quality for the next 100 years, DHEC should deny the mining permit, require the applicant to obtain an individual NPDES permit, and resume the public input period after all information is available. S.C. Code Ann. Regs. 61-9.122.28.

3. Groundwater Quality

Luck Stone's mine operations are proposed for 100 years over a 416-acre permit area and will require the lowering of the groundwater table throughout the life of the mine. *See, e.g.*, S.C. Code Regs. R. 61-101(F)(3)(c)(4) ("In assessing the water quality impacts of the project, the Department will address and consider...[t]he cumulative impacts of the proposed activity and reasonably foreseeable similar activities of the applicant and others."). The effects of Luck Stone's proposed blasting must also be assessed for the potential to cause water fluctuations or the

southeast, and approximately 4,000 feet and 4,600 feet southeast, from the proposed mine pit.") with Attachment B, MR-400 at p. 5 ("There are no ponds located on the property.")

³³ <https://scdhec.gov/best-management-practices-bmps/bmp-handbook>

introduction of residual nitrates into the groundwater system. This permit should be denied considering that this project is so close to the public water supply. In Luck's own materials, it states: "One public water well with a 2,180-foot radius PWSW Protection Zone is located approximately 3,200 feet southwest of the proposed mine pit. Multiple water supply wells included in the reviewed database, or presumed wells observed by reconnaissance, are located generally greater than 0.5-mile and less than 1-mile from the proposed mine area." *Limited Hydrogeologic Assessment*, p. 9. The quarry's proximity to the public water supply well (#SC2010002) is concerning. This well is supposed to have a defined 2,180-foot radius protection zone; however, the permit boundaries encroach on this zone and Luck itself has stated the distance from the pit to the well is approximately 3,200 feet.³⁴

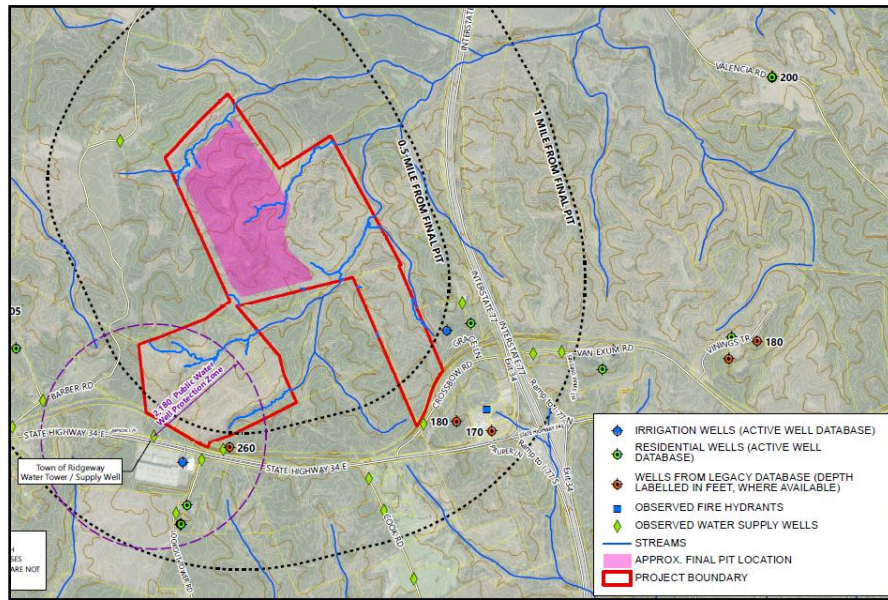


FIG. 6: LIMITED HYDROGEOLOGIC ASSESSMENT SUPPLY WELL LOCATION MAP

The mine's proximity to a public drinking source, combined with a lack of information on how the public will be kept safe must be considered by DHEC when reviewing well permits, NPDES permits, and mining permits. Luck Stone's submission also includes an 8-page *Groundwater Monitoring Plan* which purports "to measure static groundwater levels on a regular basis to establish a pre-mining baseline for groundwater levels and to document changes to groundwater levels during the mining operations;" however, no information about the quantity of groundwater required for their proposed activities is provided in the application where the applicant is supposed to describe their groundwater pumping activities:

The quarry is located in the Piedmont with crystalline rocks at shallow depths. Groundwater seepage is expected into the pit from the saprolite (weathered granite) and the fractures in the upper zone of the granite. The groundwater seepage will collect in the pit sump(s), stored (along with stormwater) until pumped to surface ponds to be used for process water and dust suppression. In

³⁴ See Limited Hydrogeologic Assessment at p. 6 and Fig. 6 [available at: https://scdhec.gov/sites/default/files/media/document/BLWM_FairfieldQuarry_HydrogeologicReport.pdf]

Appendix D of the application, the Groundwater Monitoring Plan, Fairfield I-77 Development, Fairfield County, South Carolina, and Limited Hydrogeologic Assessment Fairfield I-77 Development Site Ridgeway, Fairfield County, SC developed by S&ME provides a methodology to track groundwater drawdown in the permit area.

See p. 5 of 9 of Form MR-400.

This bare statement does not provide the public with adequate information on the risk to themselves or their wells, though there are many surrounding the mine.³⁵ The information provided on p. 7 of 9 of Form MR-400 provides no clarification either, claiming without rationalization that “[t]he potential for Fairfield I-77 to adversely impact wells on neighboring properties is considered low” and claiming this data will come from the future monitoring of wells that have not yet been applied for, constructed or permitted but will be in the future “upon approval and issuance of the mine permit.” When residents are worried about both the quantity and quality of their water due to surface runoff water effects, drawdown, wetland destruction, and pollution, the assumption of compliance is not enough; measures are required to prove that the risks have been adequately assessed. This speculative, non-responsive position is problematically compounded by the assertion that “[t]he data from the observation wells will be used in determining whether the quarry is a factor should a neighboring well experience a malfunction...” This assertion craves clarity on who, exactly, will make the determination of a mine-caused malfunction and when such a malfunction will be disclosed to the affected homeowner. Revisiting the *Groundwater Monitoring Plan*³⁶ for clarity on this point provides more uncertainty to both the Lyles Family and the general public due to the following statement:

The depth to water measurements will be obtained on a monthly basis and reported to SCDHEC on a quarterly basis....Each quarterly report will be submitted to SCDHEC within 30 days and will summarize the current and historical groundwater elevation dataset. If a statistically significant decrease in groundwater elevation occurs, which is determined by a South Carolina licensed geologist or professional engineer to be an indicator that mine dewatering operations have resulted in potential impacts to neighboring wells, then the licensed professional will prepare and submit a written report to SCDHEC within five business days from when the determination is made.

Groundwater Monitoring Plan, p. 2.

³⁵ See *Limited Hydrogeologic Assessment* [available at: https://scdhec.gov/sites/default/files/media/document/BLWM_FairfieldQuarry_HydrogeologicReport.pdf], p. 3, 7 (“The database presents 14 wells located within a one-mile radius of the planned final mining pit. The majority of these wells (up to 10) are residential water supply wells and are generally located southeast, southwest, west, and north of the site. The WellTrak database provided the depth of five wells, located within 1 mile of the site, ranging from 170 to 605 feet BG.... Twenty-two properties with registered water wells, or observed properties with a presumed water supply well, are located at distances greater than 0.5-mile and less than 1-mile of the proposed mine pit.”).

³⁶ See *Groundwater Monitoring Plan* [available at: https://scdhec.gov/sites/default/files/media/document/BLWM_FairfieldQuarry_GroundWaterMonitoringPlan.pdf]

Combined, Luck Stone's *Groundwater Monitoring Plan* for the Lyles Family and surrounding community is that the mine will determine if there is a problem with a homeowner's well and they may not be notified of the issue until four months later. This is not reassuring and due to the massive depth, scale, and 100-year permit term of this project, DHEC should require Luck Stone to complete a water report with pumping tests and modeling the completed site infrastructure, weekly hydrology test results to the community, and replacement of the wells of the surrounding property owners who rely on clean well water for their families. *See* R. 89-120(B)(4) ("The Department may impose terms and conditions on the applicant's or operator's permit provided: (1) There is a basis in law for the provision of such terms and conditions...and (4) Determined that applicant's or operator's plans are inadequate for public safety and to properly protect and safeguard the land, water, air and environment of adjacent non-permitted lands."). Tellingly, Luck Stone omitted information about its own water usage and how that may affect the water supply of nearby residents from its application. *See* Form MR-400; *see also* *Limited Hydrogeologic Assessment*. Luck Stone's proposal for its 300-acre site off of Highway 9 in Chester County was estimated to use approximately 100,000 gallons per day, or 25 million gallons a year.³⁷ For a site of this size and production level, the water consumption should anticipate just as much—or more—than was required for the proposed Chester location. Luck proposes drilling its own well, which could impact the available water for nearby residents.

Groundwater quality is of particular concern when a site is dominated by lineaments, as it is here.³⁸ Faults are, as a rule, indicated by lineaments; the term lineament is commonly used in reference to any linear geological features of different origin, age, depth, and scale.³⁹ Lineaments are usually associated with faults, linear zones of fracturing, bending deformation, and increased permeability of the crust, as well as linear chains of some geological features. *Id.* The community is concerned that the underlying fractured bedrock aquifer will be reached with the pit. *See Limited Hydrogeologic Assessment* at pp. 4-5. ("Although far more complex, the local aquifer system can be conceptually simplified and viewed as a two-layered system consisting of a shallow, unconsolidated, unconfined, porous regolith water aquifer that can supply water to surface water features and to the second layer, the underlying fractured bedrock aquifer...Because of this, the groundwater does not necessarily flow in the direction of topographic gradients. Based on the site geology and Very Low Frequency (VLF) imaged fractures, flow likely occurs along rock fabric and fracture zones. Significant fracture zones have the potential to substantially influence groundwater flow and velocities.") Thus, groundwater movement is likely controlled by the fracture zones that can reach the same aquifer that supplies the wells for nearby residents. Lineament analysis is a simple way to estimate potential controlling features of geology that may affect water flow direction and amount. The Lyles family is concerned the quarry's dewatering of the quarry will have a drawdown effect on water in the local aquifer due to a preferential movement of water along the linear features underground such as fissures and faults.

Both the private and public water supplies in the vicinity must be protected; however, the *Limited Hydrogeologic Assessment* provided to support the application does not provide an analysis sufficient to confidently predict the impacts to water resources and wetlands associated

³⁷ <https://www.onlinechester.com/content/consider-quarrys-water-use>

³⁸ *See Limited Hydrogeologic Assessment* at p. 3, Fig. 5 [available at: https://scdhec.gov/sites/default/files/media/document/BLWM_FairfieldQuarry_HydrogeologicReport.pdf]

³⁹ Florinsky, Igor. (2012). Lineaments and Faults. 10.1016/B978-0-12-385036-2.00013-4.

with mine dewatering proposed for the Luck Stone's mine and does not provide modeling studies of any drawdown potential or Luck's own anticipated water consumption; however, it does provide the total amount of water available to the surrounding towns:⁴⁰

Mr. James Ferguson, Hydrogeologist with the SCDHEC, Drinking Water Protection Division, provided additional information regarding the identified public water supply well via electronic mail on March 15, 2021. According to Mr. Ferguson, the public water supply well is identified as Well 6 and is owned and operated by the Town of Ridgeway. Mr. Ferguson further indicated that, in 2013, the well yield for Well 6 was measured at 45 gallons per minute (gpm), and the well produced 32,000 gallons per day (gpd) on average.

On March 15 & 16, 2021, Mr. Loftis spoke with Mr. Robert Arndt, Town of Ridgeway Utilities Director. Mr. Arndt confirmed that the Town of Ridgeway owns and operates a public water supply well at the elevated water tank on Highway 34. Mr. Arndt indicated the well is in use about 18 hours per day and produces about 30,000 gpd. Mr. Arndt also stated that the Town of Ridgeway purchases some water from the Town of Winnsboro, but most of the Town of Ridgeway's water is sourced from this well.

See *Limited Hydrogeologic Assessment* (3/22/21) at p. 6.⁴¹

Moreover, as noted throughout Luck Stone's application materials, the mining operations will use dry mining techniques; therefore, the proposed mining area will need to be dewatered via groundwater extraction points/sumps. This is particularly concerning because the mine is located immediately adjacent to a Wellhead Protection Area. In 1986, Safe Water Drinking Act (SWDA) amendments required each state to develop a program to "protect wellhead areas within their jurisdiction from contaminants which may have any adverse effects on the health of persons." 42 U.S.C. § 300h-7. The term wellhead protection area is defined as "the surface and subsurface area surrounding, a water well or wellfield, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such water well or wellfield." See 42 USC § 300h-7(e). In South Carolina, DHEC administers the wellhead protection program. With the passage of amendments to the federal Safe Drinking Water Act, DHEC developed a source water protection plan to address both surface and groundwater sources in accordance with R.61-58.1(E)(2)(i). Though mining operations are listed as a contaminant source, the applicants propose

⁴⁰ It's hard to imagine this 416.8-acre site will require *less* water than Luck Stone's previously-proposed 287-acre Chester quarry where Luck estimated "the water requirements for the mining operation will be 100,000 gallons per day during each work day..." See Luck Stone's full hydrogeographic report for previously proposed Chester quarry [available at: https://scdhec.gov/sites/default/files/media/document/BLWM_LuckStone_Hydrogeologic%20Assessment.pdf].

⁴¹ Moreover, the *Limited Hydrogeologic Assessment* is also insufficient, as it is admittedly a conceptual, rather than actual study on what the residents around the mine can expect. See *Limited Hydrogeologic Assessment* at p. 1 ("This limited hydrogeology assessment relied on a process that began with the development of a preliminary site conceptual model. The preliminary model was based on known or expected main features of geology, hydrogeology, mine pit location and development, and site-specific relationships between geologic structures and groundwater flow. The preliminary site conceptual model was utilized to develop field data collection needs for this assessment. The collected data included site specific geophysical information.")

to place the Fairfield quarry feet from public water supply well #SC2010002, which is Ridgeway's sole well.⁴² The applicant proposes to discharge groundwater and stormwater from dewatering activities into the Dutchman's Creek wetlands after settling in previously mined pit evacuation areas. However, the applicant does not provide a contingency plan on how they intend to treat groundwater after settling if the water still does not meet total suspended solids (TSS) and pH discharge requirements.

DHEC must also consider the strain the operation may have on onsite wetlands and the effect the operation may have on the water table. Studies show that in addition to the loss of wetlands from direct excavation, remaining onsite and surrounding offsite wetlands miles from the mine will likely be adversely impacted and lost as a result of mine dewatering.⁴³ With groundwater drawdown, onsite and adjacent wetlands will be deprived of their hydrologic connection and converted to upland, eliminating the important functions and values provided by these resources, including water quality filtration, cleansing, and wildlife habitat. Such impacts simply cannot be avoided or mitigated with buffers or monitoring. Dutchman's Creek is an important aquifer discharge area and its waters should not be impacted. *Compare Limited Hydrogeologic Assessment* at p. 3 ("Dutchman's Creek, and the other unnamed tributaries that bisect portions of the site, are the expected discharge zones for the shallow aquifer.") with 40 CFR § 230.41 ("Disruption or elimination of the wetland system can degrade water quality by obstructing circulation patterns that flush large expanses of wetland systems, by interfering with the filtration function of wetlands, or by changing the aquifer recharge capability of a wetland").

Given the magnitude of the proposed activity and its potential to continue to result in significant direct, indirect, and cumulative impacts for the next 100 years, including, but not limited to, impacts on water quality and quantity, DHEC should deny the mining permit and require the applicant to resubmit its application after all information is available for public review and comment.

iv. S.C. Code Ann. § 48-20-70 (4) the operation will constitute a substantial physical hazard to a neighboring dwelling house, school, church, hospital, commercial or industrial building, public road, or other public property

Both dewatering and blasting can cause changes in regional tectonic activity or cause the ground to lose structural integrity. If the extent of ground settling is large, it can damage nearby buildings and structures, as it has in the past in South Carolina.⁴⁴ Another concern of the nearby residents is flyrock—one of the most dangerous effects induced by blasting—and one that can cause substantial damage to structures and injury to humans.⁴⁵

The Lyles Family is deeply concerned the quarry's operations will cause well, foundation,

⁴² <https://scdhec.gov/sites/default/files/docs/Environment/docs/whpa.pdf>

⁴³ <http://dpanther.fiu.edu/sobek/content/FI/12/09/04/25/00001/FI12090425.pdf>

⁴⁴ <https://www.wyff4.com/article/upstate-rock-quarry-blast-blamed-for-damaging-homes-1/7018879>

⁴⁵ Feher J, Cambal J, Pandula B, Kondela J, Sofranko M, Mudarri T, Buchla I. Research of the Technical Seismicity Due to Blasting Works in Quarries and Their Impact on the Environment and Population. *Applied Sciences*. 2021; 11(5):2118. <https://doi.org/10.3390/app11052118>

home, and personal property damage and would like Luck to conduct seismology surveys on their properties. Regulation R.89-150.1 requires the operator to maintain a minimum distance between the nearest point of blasting and any structures not owned by the operator. Specifically, R. 89-150(1) requires “a pre-blast survey of inhabited structures (commercial buildings, homes, churches, barns) that are within one-half mile⁴⁶ of any blasting to be conducted by the operator.” R. 89-150(1). Form MR-400 specifically asks: “Do you anticipate blasting as part of the mining operation? *If yes, provide the distance to the nearest inhabited structure not owned or leased by the applicant.* Also, provide as an attachment to this application the names and addresses of all the owners of all structures within one-half mile from the nearest point of blasting during the life of the proposed mine. *How will flyrock be prevented from being projected from the permitted area?*” See Form MR-400, p. 2 (*emphasis added*). Luck Stone’s Application states:

The nearest inhabited structure to planned blasting operations is greater than 1,500 feet. Flyrock will be prevented with proper blast design and procedures developed and implemented under the direction of a SC Licensed Blaster. A preliminary map and list are being provided in this application. A final list with a map based on Fairfield County’s tax map showing the ½ mile radius will be provided to DHEC to comply with R.89-150 A after the mine operating permit is issued. Pre-blast surveys will be completed before blasting operations begin.

There will be no blasting within 250 feet of the mine permit boundary. Explosives will not be stored on site and only transported to the site on the actual days blasting operations are planned. Extensive buffers, ranging from 400 to 500 feet wide, along the property line and wetlands along the northern permit boundary extend the distance from blasting to the few homes in these areas to greater than 2,000 feet. Properties along the southern end of the mine permit area are ½ mile or greater.⁴⁷ Blasting operations will be approximately 3,000 feet and 3,300 feet from I-77 and SC Hwy 34 respectively from their respective nearest points of blasting during the lifetime of the quarry. No properties with inhabited structures are within 1,500 feet of where blasting operations will be conducted...

Owners of structures within 1/2 mile of blasting, if any, will be offered the opportunity to have a pre-blast inspection of their structure(s) to establish baseline conditions. This baseline information will be beneficial should there become concerns about vibration damages in the future.

See Attachment B, Form MR-400, p. 2 and 7. Not only does Luck Stone patently not provide the distance to the nearest inhabited structure, but they also do not provide their plan to prevent flyrock. There are wells, homes, and structures in the vicinity of their proposed activities and all questions about proximity and safety within ½ mile of the quarry must be answered before this mine is permitted. This operation is perilously close to homes, water, and families and Luck cannot be permitted to only answer questions about its initial plans but must assess the risks from its future impacts, as well.

⁴⁶ One half mile is 2,640 feet.

⁴⁷ The Lyles family is aware of family wells and homes very close to the quarry pit and future use areas and asks Luck and DHEC to do a complete study on the possible impacts on these nearby properties.



LUCK'S OVERALL SITE PLAN

Luck's carefully chosen wording to blur the impacts of its initial or future quarry plans on residents within its ½ mile blast zone is not enough. Nor is it enough to say all operations will be undertaken by a licensed blaster; that is simply a restatement of a requirement of SC law, which requires blasters to be tested, certified, and licensed by the State. *See* S.C. Code Ann. § 23-36-40(1). *All* blasting operations in South Carolina must be overseen by a licensed blaster; this bald recitation of SC law gives no opportunity for the public to provide meaningful technical comments on the permit to assess its impacts on their homes and properties. Similarly, Luck states: “Ground vibration from blasting will be controlled through properly designed blasting operations that minimize vibration and maintain them at acceptable levels that prevent damage to structures.” *See* Attachment B, p. 7. These operations and methods are not described in a meaningful way.

Safety is important. It’s even more important for a company that has been cited for safety in the past. On August 3, 2015, an 18-year-old man named Daniel Porter was tragically killed at Luck Stone’s Ashburn Quarry when he was buried under 522 tons of debris.⁴⁸ At the time of the initial accident response, the investigators were informed that the silo had a 200-ton capacity; however, the investigators later determined that the estimated weight of the material contained in the silo was 522 tons.⁴⁹ Luck Stone was cited under 104(a) of the Mine Act for violation of 30 CFR § 56.14100(c).⁵⁰ The citation states:

⁴⁸https://www.loudountimes.com/news/update-man-found-dead-after-luck-stone-quarry-accident-in-loudoun/article_00a42640-af13-53e0-92da-2fc0a98c9622.html

⁴⁹ <https://www.msha.gov/data-reports/fatality-reports/2015/fatality-15-august-3-2015/final-report>

⁵⁰ *See also* S.C. Code Ann. § 48-20-70 (7). Additional Luck Stone violations, including those from June 11, 2019, at the Luck Stone Atlanta-Stephens plant (Citation ID: 9335907) can be viewed at <https://www.msha.gov/mine-data-retrieval-system>

Citation No. 8922124: In 2012, an inspection was conducted of the silo. At that time, recommendations were made to change the wear characteristics of the silo and to recheck the wear locations yearly or every other year. The mine operator did not follow these recommendations nor take necessary actions to ensure the structural integrity of the sand plant fines silo.

Id. Luck also said the quarry will “continue to ensure that safety and success of our associates is our main responsibility.”⁵¹ Safety is important to those living around the mine, those who will work at the mine, and those who could be impacted by the mine. At a minimum, Luck Stone should have to provide information to the public so they can assure their own safety.

III. CONCLUSION

Thank you for welcoming our comments on this project. Given that this quarry will have significant adverse impacts on Fairfield County residents, Dutchman’s Creek waters, and the surrounding unique ecosystem, we respectfully request denial of the above-referenced permit application. We also ask you to consider this letter a request for notification of any and all future decisions, reports, and/or information related to this permit application, which can be emailed to me at lauren@scelp.org. We appreciate the opportunity to comment and look forward to remaining engaged in this process if it moves forward.

Sincerely,



Lauren Megill Milton

cc: Lance Davis, davism1@dhec.sc.gov
Brett Caswell, caswelbm@dhec.sc.gov

Enclosures:

- A. USACE Jurisdictional Determination (Feb. 25, 2021, 65 pages)
- B. Mining Form MR-400 Application (March 16, 2021, 9 pages)
- C. DNR’s May 14, 2021 letter to DHEC (3 pages)
- D. Luck Stone’s May 20, 2021 response (2 pages)

⁵¹ https://www.washingtonpost.com/local/missing-worker-found-dead-at-loudon-county-quarry/2015/08/04/7f05da38-3ace-11e5-b3ac-8a79bc44e5e2_story.html