SAVE OUR CANYONS

July 27, 2023

To: Utah Division of Air Quality
Bryce Bird, Director
John Persons, Project Manager

Re: I-80 South Quarry ITA Air Quality Comments

Dear John Persons and the I-80 South Quarry project team,

Thank you for the opportunity to comment on the proposed quarry in Parley's Canyon.

As you are aware, this is a very controversial project that has a variety of harmful impacts on our land, water, and air – affecting people, wildlife and our quality of life. We recognize your purview relates to one of these areas and is technical in nature. With that said, we believe the rapid and intense changes brought by increased population growth and the effects of climate change (i.e. wildfire smoke, prolonged drought, and dust from a drying Great Salt Lake, to name a few) are not captured in the provided air quality models. Thus, it can only be expected that what was modeled is a very conservative estimation of the actual impacts.

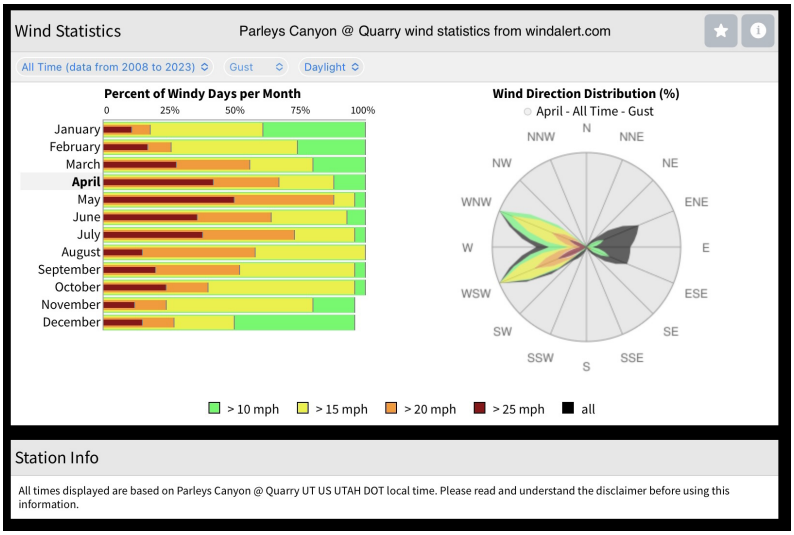
We have also reviewed and adopted all of Dr. Ranajit (Ron) Sahu's technical comments, which you can find attached to the email submission of our comments. We request that your team review and respond to each of his questions and concerns.

As we look at the proposed quarry, there are impacts from both onsite and offsite activities that contribute to air quality concerns. Through these comments, we will pose questions and provide data as we seek to ensure the permit indeed reflects reality and the best available information.

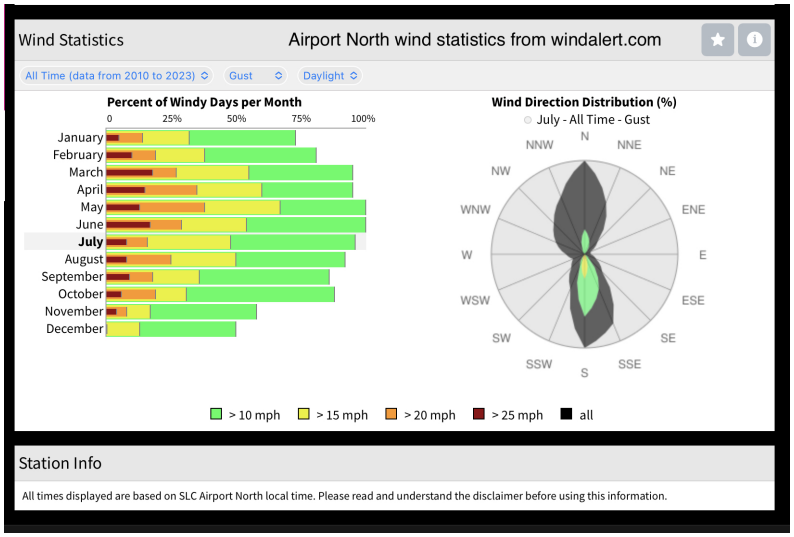
These comments will primarily focus on a few issues related to fugitive dust, vehicular emissions, and water, which is essential for mitigating dust impacts.

Wind Speeds

In reviewing the project file, we noted the source of wind data is from the Salt Lake International Airport, located in the center of the Salt Lake Valley and near the Great Salt Lake. The location of the I-80 Quarry is located in an east-west trending canyon that connects the Salt Lake Valley with Summit County's mountainous valleys. Comparisons of the two weather stations show the airport winds trend north and south, while the winds in Parley's Canyon trend east and west. While the airport is located in a wide open and vast valley, the I-80 South Quarry would be located in a constricted canyon subject to convective, orographic and, generally, canyon winds. Parley's Canyon also experiences more variable wind gusts than the airport. See screenshots from windalert.com below:



Wind data recorded at the mouth of Parley's Canyon



Wind data recorded at the Salt Lake City Airport

We question whether the use of the airport wind data is acceptable given the significant difference in wind speed, gusts, and direction.

Furthermore, we were contacted by a researcher who has been doing isotope analysis on dust from the gravel pit adjacent to the proposed I-80 South Quarry. The findings "revealed that approximately 60.35% of the dust at the down canyon site originated from the quarry." The author goes on to say, "The findings underscore the significance of atmospheric dynamics in dust transport and the potential environmental implication of the quarry operation."[1] It is worth noting that this research was initiated well before the Tree Farm application was filed, and that the impact of dust would now be from not one, but two quarries — should DAQ approve this permit.

As captured in recent research, dust deposits caused Utah's snowpack to melt 17 days earlier in 2022 than in previous years[2]. Of course, the source of this dust is not the proposed I-80 South Quarry. Nevertheless, the quarry would contribute even more fugitive dust to an already dustier future, which does not appear to be a variable the models account for, further distancing the models' outputs from reality. Looking only at the mitigation of dust from individual sources, not at the collective saturation of dust in our region and if/how this source contributes, seems to be a significant oversight. Avoidance, not mitigation, might be the best option (i.e. not allowing for the creation of a new dust source in the first place in order to protect communities).

Water Availability

Water is a key component of this project. First, it is the mitigation for dust — spraying water on exposed dirt minimizes the amount of fugitive dust in our airshed. Water sources for this project have yet to be identified, to our knowledge. We do know that according to lawsuits that have been filed, water does not appear to be available on site. According to Dr. Greg Carling at Brigham Young University, who has done analysis on fugitive dust mitigation in our region, a "site needs 200,000 to 1,000,000 gallons of water per acre each year for adequate dust prevention." Using this estimation, the proposed 20 acre pit could require 4 million to 20 million gallons of water each year. The water will likely be diverted from the Great Salt Lake, exposing more lake bed and magnifying the effects of dust blowing from the dry lake bed and the newly created gravel pit.

With no onsite water source available, it is reasonable to assume water must then be trucked in. Trucking in 4 million to 20 million gallons of water equates to a significant amount of truck traffic. Trucks, likely diesel, contribute emissions to our airshed which is in maintenance and non-attainment for several compounds found in diesel, or exhaust in general. Understanding the source and the size of water tankers used for hauling water will help assess the emissions contributions for this project. **We could not find this analysis in the project file.**

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[1] Brennan, K. (n.d.). Pilot Study on Tracing Fugitive Dust Using from the Parleys Canyon Kilgore Quarry, Utah. https://www.hydroshare.org/resource/9554c54518534035a085fb7079fca5fa/

[2] Lang, O., Mallia, D., & Skiles, M. (2023). The shrinking Great Salt Lake contributes to record high dust-on-snow deposition in the Wasatch Mountains during the 2022 snowmelt season. *Environmental Research Letters*, *18*(6).

For example, if a tanker hauls 2,000 gallons at a time, we can expect 2,000 to 10,000 trips per year to meet the aforementioned requirement of 4 million to 20 million gallons of water per year. If the water source is 20 miles away, this would mean 40,000 to 200,000 vehicle miles traveled in our airshed.

While these emissions do not occur solely on the site of quarry, they are contributions to air pollution in a region that historically and presently struggles to comply with air quality standards. DAQ should be able to assess and include the emissions from trucking water necessary for the mitigation of dust.

We appreciate the analysis done by DAQ, but find it lacking in several areas, as noted in these comments. It is clear that the intent to approve these activities in Parley's Canyon along with the incomplete analysis will have harmful impacts on Utahns and the environmental conditions of our region that have not been incorporated into the analysis. The very nature of this permit, the lack of water on site, and the diversion of waters we can only assume would be a diversion from the Great Salt Lake (as water sources have not been furnished), need to be factors for consideration.

We hope that you will take another look at this permit application and incorporate the assessment of both on and offsite impacts, and other issues brought up by experts and individuals through this comment process. We understand the laws and regulations are outside the control of DAQ, nevertheless, **there is more analysis that DAQ should and can do.** Utahns deserve to understand the realistic impacts to public and environmental health that stem from all aspects of this project.

Thank you for the opportunity to comment and if you have any questions about issues we have brought up, we would enjoy the occasion to meet with DAQ/DEQ staff to explain and discuss our concerns and noted deficiencies in greater detail.

On behalf of our members and the community,

Carl Fisher
Executive Director, Save Our Canyons