



# Great Basin Resource Watch

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## *Working with Communities to Protect Their Land, Air, and Water*

November 18, 2021

Nevada Division of Environmental Protection  
Bureau of Air Pollution Control  
901 S. Stewart Street, Suite 4001  
Carson City, Nevada 89701

Re: comments on the *Class II Air Quality Operating Permit to Lithium Nevada, AP1479-4334 (FIN A1270)*

Great Basin Resource Watch (GBRW) thanks the staff at Bureau of Air Pollution Control (NDEP) for discussions on the air quality permitting process and fielding questions we have had on the permitting process and related details.

### **Air Quality Baseline**

Did NDEP acquire actual baseline data from the region around Thacker Pass? If so, please provide the public with this data, preferably as part of the permit. If not, GBRW assumes that NDEP used the same baseline as that used in the Environmental Impact Statement (EIS) for the Thacker Pass mine. GBRW questions how relevant is the baseline data for the air quality analysis in the EIS and thus for the air quality permit. Baseline data for CO and NO<sub>2</sub> was based on data from Yosemite National Park-Turtleback Dome, and for SO<sub>2</sub> from White Mountain Research Center-Owens Valley Lab. According to the EIS the baseline used, “may be considered representative of a rural area in Nevada for conservative SO<sub>2</sub> background concentrations. Both stations (Yosemite and White Mountain in California) are in relatively rural settings in terms of nearby population centers and traffic activity” (DEIS App K, p20). Does NDEP follow the same line of reasoning? If so, what is the justification of this assertion with technically defensible data and analysis. In fact, both Yosemite National Park-Turtleback Dome and White Mountain Research Center-Owens Valley Lab are significantly different than the region that contains Thacker Pass. Thacker Pass bridges two agriculturally intensive valleys, which is not the case for the locations used in the EIS.

If NDEP did not use the same baseline, then what was used and what is the justification and lines of evidence for the baseline used by NDEP.

In the case of H<sub>2</sub>S, PM<sub>2.5</sub>, and PM<sub>10</sub> the EIS simply states that Nevada-based, NDEP baseline values are used, how did NDEP arrive at baseline values for these constituents? Did NDEP

also use a zero H<sub>2</sub>S background level? If so, GBRW questions this in an agricultural area and where riparian zones exist.

### **Ambient Air Quality Monitoring**

The Thacker Pass mine, especially the presence of a chemical plant (acid plant) will lower the air quality in the areas surrounding the mine. There are sensitive populations near to the mine site including the agricultural operations that depend on clean air for food production. As an additional mitigation measure NDEP should implement or require is the implementation of ambient air quality monitoring around the perimeter of the mine site to ensure that US EPA air quality standards are not violated. In addition, judicious placement of air monitoring within the directly affected communities should also be implemented to ensure protection of those populations.

GBRW understand that ambient air monitoring as discussed above is not typical, but given the nature of the proposed facility and proximity to affected people, and this has been a high level of concern for the directly affected communities NDEP needs to make an extra effort to ensure minimal environmental damage and protect public health.

### **Phased Permitting Process**

Permit application appears to apply to Phase I of the mine plan calling for a 3,000 MTPD (Metric Tons Per Day) acid plant. Phase II of the mine plan is proposed to double the production of the mine, so that sulfuric acid production would ramp up to 6,000 MTPD. Based on the "Director's Review" by NDEP NO<sub>x</sub> emissions are expected to be 88.7 TPY (tons per year), so during the expansion to Phase II is very likely to exceed 100 TPY for NO<sub>x</sub>, which as GBRW understands the regulation would put the Thacker Pass facility into a Class I category, and fall under Title V Clean Air Act federal permitting, and a more involved process. The SO<sub>2</sub> emissions would be very close to the 100 TPY for Phase II also. Why doesn't NDEP require permitting of the entire proposed mine plan? It would seem to be in the public interest to fully evaluate the mine plan and the consequences for air quality. If there is clear evidence of increased emissions, which in our view there is given the Phase II aspect in the full mine plan, should not full emissions be determined before the facility is constructed to ensure optimal protection of the directly affected communities and their environment? There maybe mitigation measures that will be deemed needed for the full mine plan that would be best determined and implemented at the beginning of the facility construction. Or, it maybe clear that some changes to the mine will be needed to uphold air quality standards and public protection.

### **Analysis of Sulfur**

GBRW did see the Safety Data Sheet on the molten sulfur provided by Chevron. According to that document the molten sulfur contains only sulfur and hydrogen sulfide. Given the source of the sulfur from oil and gas operations GBRW is concerned that there are small amounts of organic compounds present that were in some way outside of the scope of the analysis used to create the Safety Data Sheet. GBRW recommends that NDEP clarify the composition of the molten sulfur and ensure that there are no other compounds even if in very small amounts that could be a source of air pollution. Even very small amounts could be significant considering the amount of sulfur to be processed.

## Capacity to Achieve Emission Control

GBRW is still concerned regarding the ability to achieve the very low emissions for SO<sub>2</sub>. Our attention to this first surfaced during our review of the EIS for Thacker Pass, which contained a confusing discussion of SO<sub>2</sub> emissions for Phase I and Phase II. We also note that Lithium Nevada Corp. (LNC) switched to DuPont for the control technology since the EIS process, which might explain the confusing text in the EIS. All of this did lead GBRW to investigate acid plants and the reported emissions. LNC is proposing SO<sub>2</sub> will be reduced to levels that appear to be rare nationally and internationally for sulfuric acid plants, which is why we have been advocating for there to be a proof of concept.

GBRW did review the DuPont letter (Oct 13, 2021) to NDEP identifying the Freeport-McMoRan Copper & Gold Inc in Arizona as an example that "might be a good comparison point for Lithium NV." The directly affected communities have been waiting for this information for months, and it is concerning that it took until mid October for this to be provided to NDEP and thus the public.

The Freeport-McMoRan operation is a 1500 MTPD operation, which half the size of the Phase I Thacker Pass acid plant, but its SO<sub>2</sub> emissions are roughly twice those of those expected for Thacker Pass. Therefore, the Thacker Pass SO<sub>2</sub> scrubber needs to be about 4 times better than what is considered to be comparable scrubbing operation. NDEP should disclose to the public in an appendix to the permit that clarifies the line(s) of evidence that was used to confirm that the level of emissions reductions proposed for the Thacker Pass mine is reasonably achievable.

Thank you for the opportunity to submit these comments. Please feel free to contact John Hadder if you have any questions or concerns.

Sincerely,

A handwritten signature in black ink that reads "John Hadder". The signature is written in a cursive, flowing style with a large initial "J" and "H".

John Hadder,  
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