

Form #3
Request an Appeal Hearing
Revised 6-2012



NEVADA
**STATE ENVIRONMENTAL
COMMISSION**

1. Name, address, telephone number, and signature of appellant:

Name: Great Basin Resource Watch c/o Cavanaugh-Bill Law Offices

Physical Address: 401 Railroad Street, Elko, NV 89801

E-mail Address: julie@cblawoffices.org

Telephone Number: 775-753-4357

Signature: 

Representative capacity (if applicable): Attorney

2. Attach copy of Nevada Division of Environmental Protection final decision, such as permit or notice of alleged violation, being appealed.

3. Specify grounds of appeal: (check all that apply)

- Final decision in violation of constitutional or statutory provision;
- Final decision made upon unlawful procedure;
- Final decision was affected by other error of law;
- Final decision was clearly erroneous in view of the reliable, probative and substantial evidence on the whole record;
- Final decision was arbitrary or capricious or characterized by abuse of discretion;

4. For each ground of appeal checked above, please list the constitutional, Nevada Revised Statute (NRS), and/or Nevada Administrative Code (NAC) provision allegedly violated. Also list the statutes and/or or regulations that give the State Environmental Commission jurisdiction to hear the appeal.

See Attachment.

5. For each ground of appeal checked above, provide a brief and concise statement of the facts which provide the basis for the appeal.

See Attachment.

Date of Request: March 7, 2022

Supporting Documents



After signing and submitting this form (below), attach the permit or notice of alleged violation that you are appealing directly to your email message. Include other supporting documents as needed.

Send form to: Executive Secretary, State Environmental Commission, 901 South Stewart Street, Suite 4001, Carson City, NV 89701

Thacker Pass Water Pollution Control Permit
2022 Appeal WPCP Number NEV2O2O104
Attachment to Question 4:

- A. **Final decision was affected by other error of law - GBRW asserts that the agency is in error in determining that there is no degradation of waters of the State.-** NAC 445A.424-447, NAC 445A.429, NRS 445A.305, NRS 445A.405, NRS 445A.415, NRS 445A.425, NRS 445A.465
- B. **Final decision was arbitrary or capricious or characterized by abuse of discretion - There has been no variance for the Thacker Pass Mine and Lithium - Nevada Corp..** - NAC 445A.430, NRS 445A.425, NRS 445A.465
- C. **Final decision was arbitrary or capricious or characterized by abuse of discretion - The agency has not assured the minimization of release of contamination** - NAC 445A.433, NAC 445A.436, NAC 445A.437, NRS 445A.425, NRS 445A.465
- D. **Final decision was arbitrary or capricious or characterized by abuse of discretion - The agency allowed faulty analysis to guide the permitting decision.** - NAC 445A.429, NRS 445A.425, NRS 445A.465
- E. **Final decision was clearly erroneous in view of the reliable, probative and substantial evidence on the whole record due to the long-term pollution issue – the agency cannot ensure closure due to an inadequate mine plan.** - NAC 445A.446 (NAC 445A.429-431), NRS 445A.425, NRS 445A.465
- F. **Final decision was arbitrary or capricious or characterized by abuse of discretion - The agency is imposing unverifiable requirements in the permit** - NAC 445A.436, NAC 445A.437, NRS 445A.425, NRS 445A.465

Attachment to Question 5

A. Final decision was affected by other error of law - GBRW asserts that the agency is in error in determining that there is no degradation of waters of the State.- NAC 445A.2268, NAC 445A.121, NAC 445A.424-425, NAC 445A.429, NAC 445A.465, NRS 445A.305, NRS 445A.335, NRS 445A.405, NRS 445A.415,

B. Final decision was arbitrary or capricious or characterized by abuse of discretion - There has been no variance for the Thacker Pass Mine and Lithium Nevada Corp.. - NAC 445A.430, NAC 445A.431

There is no requirement for all of the tailings to be neutralized.

According to LNC documents¹ the tailings with salt samples were reconstituted at a ratio of 64.1 percent LFilterCake, 17.3 percent NFilterCake, and 18.6 percent Salt, as measured by dry weight all to go to the tailings facility. The LFilterCake (leached) tailings will contain residual sulfuric acid, which is expected to result in very toxic seepage based on the Meteoric Mobility Water tests. NDEP does state a preference for the tailings to be neutralized, but also that NDEP does not have the authority to require neutralization. Here is how NDEP responded to public comments on filtered tailings neutralization::

“Although NDEP agrees that neutralization of all tailings material prior to filtration is a more benign option, the CTFS is designed in accordance with the applicable regulations and will be constructed as a zero-discharge facility. The material will be stored on 80-mil geomembrane-lined containment, compacted to approximately 10^{-6} to 10^{-7} cm/sec, and covered with waste rock/growth media at closure; therefore, no degradation to groundwater will occur. Sulfuric acid is compatible with 80-mil HDPE geomembrane which still has a long-life expectancy when in contact with low pH solutions (see Response 150 regarding liner life expectancy). Therefore, neutralization prior to placement is not necessary or required to protect waters of the State.”

There are requirements on stabilization of tailings and spent ore, which includes tailings, contained in **NAC 445A.430 and NAC 445A.431**. **NAC 445A.430** Part 1 is not satisfied for the Thacker Pass mine, since the tailings are acidic. Part 2 allows for an exception to be made if the requirement cannot be achieved. There has been no determination that the requirement in Part 1 cannot be satisfied. In fact, the permit clarifies in Section N, Continuing Investigations, number 3, “The Permittee shall initiate and continue neutralization studies of tailings material prior to its filtration and stacking on the CTFS.” Therefore, a determination of unachievable neutralization

¹ Newfields, “Engineering Design Report CTFS, WRSF, CGS, Mine Facilities and Process Plant Stormwater Management,” April 2, 2020. Contained in the WPCP application.

has not been made, and needs to be for a variance to be issued by NDEP. There is nothing in the permit regarding a variance to Part 1, and the text in the continuing investigation says nothing about the studies to be used for NDEP issuance of a variance to Part 1.

NAC 445A.431 also specifically requires that “tailings must be stabilized during the final closure of a facility so as to inhibit the migration of any contaminant that has the potential to degrade the waters of the State.” The agency erroneously believes that the 80 mil HDPE line will stabilize any contaminant release. NDEP stated in response to public comment:

“... based on the approved tailings impoundment design, i.e., fully lined 80-mil high-density polyethylene containment (HDPE), once the HDPE is buried beneath the emplaced tailings, the potential for mechanical damage/failure of the liner system is reduced to near zero percent, so the potential for release of the material is essentially non-existent.”

There exist analyses of HDPE liner failure that contain a range of expected lifetimes, so there is considerable uncertainty. It is also an industry definition that lifetime is essentially a half-life - the time it takes for 50% loss of integrity. This means that a study concluding a lifetime of 150 years could still fail prior to 150 years, since the integrity is likely compromised in some way with unclear consequences.

Furthermore, these analyses assume that there have been no errors in the construction of the overall liner. It is also reasonable that the liner will eventually fail, and if seepage is still occurring, then waters of the State have the potential to be degraded. In fact there was no analysis of seepage through the liner due to common defects and etc., so we don't know how well the containment will be. NDEP's assertion of “near zero percent” loss on containment over the longer term cannot be substantiated. The agency must ensure that all efforts are used to stabilize mine waste and prevent toxic drainage.

C. Final decision was arbitrary or capricious or characterized by abuse of discretion - The agency has not assured the minimization of release of contamination - NAC 445A.433, NAC 445A.436, NAC 445A.437

NAC 445A.433 Part 1 subpart (b) is also not satisfied since the source of contamination, the tailings, is not designed to minimize the release of the contamination, but the source would be minimized if the tailings were neutralized. The neutralized tailings would have significantly lower release of toxins. If there is a method available to minimize toxic release then it needs to be part of the design. Even if **NAC 445A.437** satisfied **NAC 445A.430** and **NAC 445A.433** above must still apply.

D. Final decision was arbitrary or capricious or characterized by abuse of discretion - The agency allowed faulty analysis to guide the permitting decision. -

The seepage analysis of Piteau is unreliable and NDEP should not have used any of its results for the permit.

The analysis by Piteau did not take into account consolidation of tailings and is therefore an unreliable analysis. In addition, Piteau did not explore the full range of uncertainty of input parameters in order to provide the public and the agency the information needed for an informed decision on permitting of the mine. The agency should not be using this analysis for any permitting decisions. In the fact sheet that NDEP produced, there is information that comes from this analysis, such as the expected seepage rate of 0.02 gallons per minute, and the anticipated time at which seepage would begin as greater than 1000 years. By citing the results of the Piteau seepage analysis, it is clear that NDEP is using the results of the Piteau analysis in the permitting.

E. Final decision was clearly erroneous in view of the reliable, probative and substantial evidence on the whole record due to the long-term pollution issue – the agency cannot ensure closure due to an inadequate mine plan. - NAC 445A.446 (NAC 445A.429-431), NRS 445A.425, NRS 445A.465

It is necessary to have a sense of the seepage rate versus time to know how long and to what extent management of tailings facility will be required. The plan of operations for the mine provides for managing seepage from the tailings during mine operations by sending the seepage to the processing facility. This is a recognition that seepage is likely during operations. Seepage will continue throughout closure and continue for a yet to be estimated time, and according to Newfields analysis a minimum of 109 years. The conclusion that seepage will not occur for 1000 years is not correct and should not have played a role in permitting decisions. Further, there is a conflict in the seepage analysis of Newfields and Piteau that needed to be resolved. The agency seems to choose numbers from both analyses without justification assuming that both are correct. The agency and the public needed to be provided a best estimate of the rate of seepage over time including the associated seepage toxicity. There is no reliable data on this aspect of the tailings facility, and therefore the timeline for long-term management is unknowable.

Credible data and analysis exist that the design specifications of the tailings facility including the seepage management has a reasonable probability of inadequacy. Newfields calculated an expected seepage of 74 gpm during operations, assuming a tailings water content of 49%. However, analysis by Newfields and LNC shows that water content will often reach 58% or more, and the Newfields analysis seems not to have included precipitation. Just these two factors are likely to increase the seepage rate to hundreds of gallons per minute, which is beyond the design capacity for the facility of 74 gpm. Thus, the permit should not be issued until it is clearly demonstrated that seepage will not exceed design capacity.

Nevada regulation (NAC 445A.446) states, “Permanent closure is complete when the requirements contained in NAC 445A.429, 445A.430 and 445A.431 have been achieved.” NAC 445A.429 requires that, “The holder of the permit must institute appropriate procedures to ensure that all mined areas do not release contaminants that have the potential to degrade the waters of the State.” GBRW seriously questions whether Lithium Nevada Corp. can “ensure” that there will be no release of contaminants when there is no end-date for active treatment. Analysis of conditions at the site and plan to manage toxic drainage continues to be inadequate.

F. Final decision was arbitrary or capricious or characterized by abuse of discretion - The agency is imposing unverifiable requirements in the permit -

The 46% target water content ($100 \times \text{weight of water} / \text{weight of dry solids}$) for the tailings has not been demonstrated to be achievable and should not be in the permit. There is no real world or even laboratory data that would verify that the target water content of the tailings contained in the permit can be reached. Therefore this aspect of the tailings is unknown and seepage rates are also unknown since the water content is a critical factor in determining seepage rate. The permit should not contain a target water content that is potentially unattainable and which has no data to support it. In this case what is needed is for at least experimental data to be obtained before the permit is issued.

Schedule of compliance items 8 and 9 below shows that NDEP recognizes an important deficiency in the tailings analysis provided, which is the water content of the tailings as applied to the tailings facility. Yet, the agency approved the permit.

8. By 10 July 2022 (within 120 days of the effective date of the Permit), the Permittee shall submit for review and approval an additional sensitivity analysis analyzing the effect of moisture content on seepage rates from the Clay Tailings Storage Facility to specify an allowable operating range for tailings placement.

9. By 11 May 2022 (within 60 days of the effective date of the Permit), the Permittee shall submit for review and approval an engineering design change for the installation of a surface flow measuring device or an updated monitoring plan which includes the methods to be used to monitor flow at the surface waters identified in Part I.D.9.

GBRW contends that all of the analysis should have been in place in order to permit the Thacker Pass mine, but it has not been done. The permit is not ready to be issued. The agency needs to require the critical tailings information.

Where does the agency draw the line as to what data and analysis are needed in order for the permit to be issued? The tailings facility is essentially an engineered waste dump that will remain on the land indefinitely and the charge of NDEP to prevent degradation of the waters of the State has no end date. To ensure that waters of the State are not degraded during operations, through closure and beyond, demands that all obtainable information is available to the agency and public for the permit to be issued.