



*Great Basin
Resource Watch*



January 19, 2021

Via

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Ely District Office
702 North Industrial Way
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Re: *Comments on the Draft Environmental Impact Statement Robinson Mine Plan of Operations Amendment and Proposed Resource Management Plan Amendment, White Pine County, Nevada*

Great Basin Resource Watch (GBRW) and the Progressive Leadership Alliance of Nevada (PLAN), (collectively for these comments GBRW) is very concerned about the trajectory of this mine as it moves to closure. There exists significant acid mine drainage at this mine, and BLM needs to assess whether this mine may require treatment in perpetuity.

This DEIS falls well short of the needed analysis under the National Environmental Policy Act (NEPA) and BLM's duties under the Federal Land Policy and Management Act (FLPMA). The original EIS for the Robinson Mine dates back to 1994, and there have been numerous changes over the years and the current expansion is now the second major change in the past two years. This DEIS gives the public only a narrow view of the Robinson mine and how it has affected the environment and local community.

GBRW urges BLM to go back and conduct a detailed analysis of the mine that includes the necessary cumulative impacts analysis required by NEPA.

PUBLIC ENGAGEMENT PROCESS

A more transparent and adequate public process is needed. Public engagement was not sufficiently catered to in the online format at the DEIS meeting on January 6th, 2020.

Virtual Meeting Structure

During the January 6th, 2020, DEIS meeting, the chosen virtual meeting format infringed upon the transparency and effectiveness of the public process. The settings chosen in zoom for the meeting (ie, that all participants were muted and kept from being seen on

the shared screen) entirely prevented attendees from having awareness of other community members present.

Due to this, public attendees' presence was essentially made invisible through the virtual meeting's structure. Participants did not appear on the screen at all during the meeting, and only the names of attendees who asked questions ever became public. In order for an attendee's voice to be heard, their question first needed to be "accepted" virtually by the moderator. While moderators were free to speak and provide information or thoughts at any time, members of the public had to be given permission to do the same...which presents a clear inequity and opposition to the true spirit of genuine public process.

Furthermore, members of the public who did not have specific questions to ask during the meeting (or were unable to utilize the virtual tools in order to ask their questions) were not seen or heard at all. In itself, this likely discouraged public engagement and inhibited collective learning ability—since feeling as if you are *a part* of a space contributes to your ability to actively and meaningfully engage with one. An invisible public is, in many ways, a marginalized public. Since community members are unable to feel and be included in a space as they would have been able to during previous times (through the means of being physically present in the room), other measures must thoughtfully be put in place in order to address this natural deficiency in the transition to virtual public meetings. A more transparent structure, where all attendees and moderators are given equal opportunity to be seen, heard, and understood is needed for future public meetings.

EIS meetings are a collective public process and a means for community members to come together to better understanding a proposed action, require an awareness of others that was clearly withheld from this virtual meeting. The value of EIS meetings comes not only as a means for community members to hear and engage with sources of knowledge from public agencies and the mining operator, but to share knowledge, concerns, and related lived experience with others in their community. At the January 6th meeting, there was no way for attendees to engage directly with other members of the public. All information was one-sided and prevented a collective learning that comes from the conversational format that exists during in-person meetings.

A means for attendees to see one another, as well as have conversations or ask questions directly to one another, is a vital component of the public process that must be remedied and incorporated into future virtual meeting spaces. The best solution for this would be to allow all attendees to have the choice to un-mute themselves and turn their computer cameras on (to be seen on the shared screen). If this is not possible, at the very least, there should be a sign-in sheet where attendees can see both who and how many others are present. Creation of the space in this way is also needed for the process to stay accountable towards the public.

Overall, more malleability is needed in order for the public process to best be upheld in these unpredictable times. The most effectively moderated virtual public process is likely

one where moderators acknowledge and actively listen to difficulties members of the public have in accessing the new virtual tools for participating—and subsequently ask for input and suggestions for how to make the process more accessible. Whatever the exact solutions are for continuation of effective and genuine public process in this COVID-19 world, they must be amenable to the needs expressed by members of the public during this time. And the space for expressing these needs must be widened.

The insufficient public engagement process with the project thus far should be critically evaluated and improved upon.

THE REVIEW PERIOD FOR THE DEIS WAS MUCH TOO SHORT

The DEIS was released at the beginning of December 2020 with a much too short comment period extending through the Christmas and New Years holidays, so 10 days to two weeks is effectively lost to the public. It is clear that the Trump Administration does not care about the people in the community that are hosting this mine. As a result people continue lose respect for federal agencies as BLM, which further erodes the NEPA process. Ultimately, the behavior of the agency sets up a dynamic that fosters distrust and often results in increasing litigation, which ironically is in opposition to the goal of the Trump Administration to see mines permitted faster.

THE STRUCTURE OF THE DEIS MAKES REVIEW ONEROUS

The “streamlining” process the BLM has used to craft the DEIS does a disservice to the public. The main body of the DEIS (Chapters 1-6) does not describe the project and its consequences in much detail, and how negative effects of the project are to be mitigated sufficiently. Therefore, it is necessary to review all the appendices as well. It is far more efficient for anyone reviewing the DEIS to be able to see all aspects in the same section of the document. By splitting out key aspects the reader is constantly going between various documents in a cumbersome process that actually re-quires more time. This conspires with the shorter timeframe for review (45 days is an absurdly short period of time for a new and complex mine plan) the DEIS to seriously undermine the ability of the public and in particular the affected community to fully understand and comment on the consequences of the Robinson mine and the expansion plan. BLM needs to return to its previous approach to the structure of the DEIS, which is more self contained and actually simpler for the public to review.

THE DEIS FAILS TO PROVIDE AN ADEQUATE BASELINE ANALYSIS AS REQUIRED BY NEPA

The DEIS does not generally provide sufficient baseline data and analysis for the public to evaluate the affects of the Robinson Mine on the environment and community. For example, background water quality data is not in section 3.3.1 Affected Environment under “Geochemistry and Groundwater Quality.” The first paragraph in this section only states, “Groundwater in this hydrogeologic block exceeds Nevada Drinking Water Standards for arsenic, iron, manganese, sulfate, and TDS (see Appendix C).” (DEIS p 3-6). Appendix C only contains new groundwater monitoring and production well and does not provide the complete baseline. It is also not clear that this represents background water quality data –

meaning not affected by the mine. The water quality in some or all of the wells could already have been affected by the mine. A quantitative assessment of the effect of the mine on groundwater quality is not possible, nor the future effects relative to background groundwater quality.

In fact there are a many groundwater monitoring wells that show elevated constituents and significant exceedences in particular wells R-A, W-19, and W-28R as is seen in the recent quarterly monitoring reports.¹ The EIS needs to provide a full picture of the water quality and explain why there are such high levels and exceedences for some of the well at the Robinson mine. The number and very high levels of constituents in W-19 is particularly striking and would seem to be mining related. The EIS needs to delineate whether the water quality in the monitoring wells is mine related or background and provide the evidence supporting these conclusions.

Under NEPA, BLM must also fully analyze the baseline conditions of all potentially affected resources. BLM is required to “describe the environment of the areas to be affected or created by the alternatives under consideration.” 40 CFR § 1502.15. The establishment of the baseline conditions of the affected environment is a fundamental requirement of the NEPA process. “Without establishing the baseline conditions which exist ... before a project begins, there is simply no way to determine what effect the project will have on the environment, and consequently, no way to comply with NEPA.” Great Basin Resource Watch, 844 F.3d at 1101, quoting Half Moon Bay Fisherman's Mktg. Ass'n. v. Carlucci, 857 F.2d 505, 510 (9th Cir.1988). “[W]ithout [baseline] data, an agency cannot carefully consider information about significant environment impacts. Thus, the agency fails to consider an important aspect of the problem, resulting in an arbitrary and capricious decision.” N. Plains Resource Council, Inc. v. Surface Transp. Bd., 668 F.3d 1067, 1085 (9th Cir.2011). This includes the requirement to fully analyze for public review the quality and quantity of ground and surface waters, wildlife, recreation, cultural, air quality, and all potentially affected resources.

CUMULATIVE IMPACTS OF ALL PAST ACTIVITIES/ACTIONS ARE NOT ADDRESSED

A cumulative impact is “the impact on the environment which results from incremental impact of the action when added to other past present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time.” (40 CFR § 1508.7.) This definition is critical to determining the proper area to be studied in a cumulative impact assessment.

The EIS must fully consider all “direct and indirect impacts” under NEPA, and review the “cumulative impacts” from all “past, present, and reasonably foreseeable future actions” under NEPA. 40 CFR § 1508.7. In this case, the EIS’ does not address the cumulative affect of perpetual treatment at the site or the affect if there is a failure to continue the existing treatment regime, then it will be in violation of NEPA. BLM’s duties to fully analyze all direct, indirect, and cumulative impacts include the duty to analyze baseline conditions and

all impacts from the existing facilities, all proposed facilities, and all other “past, present, and reasonably foreseeable future” activities in the region.

Klamath Siskiyou Wildlands Center v. BLM, 387 F.3d 989, 995 (9th Cir. 2004):

[T]he general rule under NEPA is that, in assessing cumulative effects, the Environmental Impact Statement must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment. See *Neighbors of Cuddy Mountain v. United States Forest Serv.*, 137 F.3d 1372, 1379-80 (9th Cir.1998); *City of Carmel-By-The-Sea v. United States Dept. of Transp.*, 123 F.3d 1142, 1160-61 (9th Cir.1997).

Lands Council v. Powell, 395 F.3d 1019, 1028 (9th Cir. 2005):

The [agency] cannot simply offer conclusions. Rather, it must identify and discuss the impacts that will be caused by each successive [project], including how the combination of those various impacts is expected to affect the environment, so as to provide a reasonably thorough assessment of the project’s cumulative impacts.

Klamath Siskiyou, 387 F.3d at 1001. In a major mining and NEPA decision, the Ninth Circuit recently specifically rejected the type of brief mention or listing of projects/acreages as found in the DEIS:

In a cumulative impact analysis, an agency must take a “hard look” at all actions. An EA’s analysis of cumulative impacts must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment. ... Without such information, neither the courts nor the public ... can be assured that the [agency] provided the hard look that it is required to provide.

Te-Moak Tribe of Western Shoshone, 608 F.3d 592, 603 (9th Cir. 2010) (Rejecting EA for mineral exploration that had failed to include detailed analysis of impacts from nearby proposed mining operations. Although that case involved an EA, the need for a complete cumulative impacts analysis also fully applies to an EIS).

In *Great Basin Mine Watch v. Hankins*, 456 F.3d 955, 971-974 (9th Cir. 2006), the court struck down the same sort of acreage listing and brief, generalized descriptions of mining impacts in the region. The court required BLM to include “mine-specific ... cumulative data.” *Id.* at 973. Relying on *Klamath-Siskiyou*, and *Lands Council*, the court highlighted the need for a “quantified assessment of their [other projects] combined environmental impacts” and “objective quantification of the impacts.” *Id.* at 972. That has not been done here.

The EIS must provide any meaningful analysis of the cumulative impacts of all past, present, and reasonably foreseeable future activities/actions. In its cumulative impact analysis, an agency must take a “hard look” at all actions:

[A]nalysis of cumulative impacts must give a sufficiently detailed catalogue of past, present, and future projects, and provide adequate analysis about how these projects, and differences between the projects, are thought to have impacted the environment. . . . Without such information, neither the courts nor the public . . . can be assured that the [agency] provided the hard look that it is required to provide.

The Ninth Circuit has repeatedly faulted the federal land agencies' failures to fully review the cumulative impacts of mining projects. In the most recent case, vacating BLM's approval of a mine, the court stated that "in a cumulative impact analysis, an agency must take a 'hard look' at all actions that may combine with the action under consideration to affect the environment." *Great Basin Resource Watch v. BLM*, 844 F.3d 1095, 1104 (9th Cir. 2016) (emphasis in original) (quoting *Te-Moak Tribe*). BLM violated NEPA because it "did not 'identify and discuss the impacts that will be caused by each successive project, including how the combination of those various impacts is expected to affect the environment.'" *Id.* at 1105, quoting *Great Basin Mine Watch*, 456 F.3d 973-74.

In *Great Basin Mine Watch*, the Ninth Circuit required "mine-specific . . . cumulative data," a "quantified assessment of their [other projects] combined environmental impacts," and "objective quantification of the impacts" from other existing and proposed mining operations in the region. *Id.* at 972-74. The agency cannot "merely list other [projects] in the area without detailing impacts from each one." *Id.* at 972. See also *ONRC v. Goodman*, 505 F.3d 884, 893 (9th Cir. 2007).

The DEIS generally focuses only on the proposed action and is minimally descriptive directing the general public to review technical documents cited within the text. This results in an opaque review process with the public unable to meaningfully understand the overall affects of the Robinson mine from past actions, which are not analyzed, proposed, and foreseeable future actions.

Again, if we examine groundwater quality the phrase "mining impacted waters" appears nowhere in the DEIS, yet the Robinson mine has a significant history of and still has to address acid mine drainage and related water pollution. The DEIS does provide the public a clear understanding of how the Robinson mine has affected the environment, nor an estimation of how long "mining impacted waters" will result for the mine and the long-term need for treatment active or passive.

The cumulative impacts section in the DEIS effectively does not exist. For example, in the Geochemistry and Groundwater Quality section (4.3, p 4-2) is a two sentence paragraph where the first sentence states, "The cumulative impacts of past and present actions on geochemistry and groundwater quality in the immediate vicinity of the Robinson Mine are represented by the description of the existing affected environment, as are the potential impacts of future activities at the mine, including remediation activities." The affected environment section as discussed above provides almost no assessment of how the

geochemistry of the site has affected groundwater quality at the Robinson mine or the need to capture polluted drainage or discharge.

ADDITIONAL NEPA, FLPMA, AND OTHER REQUIREMENTS

NEPA requires BLM to fully analyze all mitigation measures, their effectiveness, and any impacts that might result from their implementation. NEPA regulations require that an EIS: (1) “include appropriate mitigation measures not already included in the proposed action or alternatives,” 40 CFR § 1502.14(f); and (2) “include discussions of: . . . Means to mitigate adverse environmental impacts (if not already covered under 1502.14(f)).” 40 CFR § 1502.16(h). NEPA requires that BLM review mitigation measures as part of the NEPA process -- not in some future decision shielded from public review. 40 CFR § 1502.16(h). This includes mitigation for all potentially affected resources such as air and water quality, wildlife, cultural, recreation, visual, etc.

Under NEPA, the DEIS must also fully review all direct, indirect, and cumulative environmental impacts of the Project. 40 C.F.R. §§ 1502.16, 1508.8, 1508.25(c). Direct effects are caused by the action and occur at the same time and place as the proposed project. Id. § 1508.8(a). Indirect effects are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Id. § 1508.8(b). Types of impacts include “effects on natural resources and on the components, structures, and functioning of affected ecosystems,” as well as “aesthetic, historic, cultural, economic, social or health [effects].” Id.

In addition to the fundamental cumulative impacts review requirements noted above, NEPA regulations also require that the agency obtain the missing “quantitative assessment” information. 40 C.F.R. § 1502.22. “If there is ‘essential’ information at the plan- or site-specific development and production stage, [the agency] will be required to perform the analysis under § 1502.22(b).” *Native Village of Point Hope v. Jewell*, 740 F.3d 489, 499 (9th Cir. 2014). Here, the adverse impacts from the Project when added to other past, present, or reasonably foreseeable future actions is clearly essential to BLM’s determination (and duty to ensure) that the projects comply with all legal requirements and minimizes all adverse environmental impacts.

FLPMA and BLM mining regulations require that all activities on public land comply with all environmental protection standards, including air and water quality standards. See, e.g., 43 CFR § 3809.5 (definition of “Unnecessary or Undue Degradation” prohibited under FLPMA includes “fail[ure] to comply with one or more of the following: ... Federal and state laws related to environmental protection.”); § 3809.420(b)(4) (listing Performance Standards that must be met, including the requirement that “All operators shall comply with applicable Federal and state air quality standards, including the Clean Air Act (42 U.S.C. 1857 et seq.).”

The same is true for operations that are not specifically authorized by the 1872 Mining Law (such as the waste and tailings facilities discussed above) which are properly governed by DOI/BLM’s FLPMA special use regulations : “(b) Each land use authorization shall contain terms and conditions which shall: ... (3) Require compliance with air and water quality

standards established pursuant to applicable Federal or State law.” 43 C.F.R. §2920.7(b)(3). NEPA requires that: “Environmental impact statements shall state how alternatives considered in it and decisions based on it will or will not achieve the requirements of sections 101 and 102(1) of the Act [NEPA] and other environmental laws and policies.” 40 C.F.R. § 1502.2(d).

GEOCHEMICAL AND WATER QUALITY ASPECTS

1. The model used to estimate groundwater degradation from waste-rock assumes, incorrectly, that laboratory weathering tests indicate directly pollutant concentration under field conditions.

The estimate of pollution release from the proposed King and Tripp waste rock facilities assumes that “MWMP and HCT data can be used in modeling without applying scaling factors” (Stantec 2020, p. 7).² This is based on the finding that the composition of humidity cell leachate on acid-leached rock (ALM) is similar to the composition of ALM effluent that accumulated under field conditions in the Intera Pond. This assumption may work OK for the acid leached material, where are high concentrations of moderately soluble acidic solids form in the rock. There are examples where acid-generating rock has oxidizing for decades in a Nevada, and then produced a relatively constant solute composition when suddenly flushed with water.

But in the great majority of situations where pollutants are released by the simple oxidation of sulfide S minerals (e.g., all of the sulfide-bearing waste rock at the Robinson Mine that has not been subject to acid leaching), leachate concentrations in the field varies widely relative to leachate from the same rock under laboratory conditions. This is unsurprising: two of the most important parameters controlling concentration--the duration over which oxidation has occurred to releases solutes between rinsing, and the water-to-rock ratio in the rinse step— vary widely between lab and field conditions. Very broadly, because waste rock under field conditions at the Robinson Mine experiences a longer period of oxidation and a lower water-to-rock ratio than rock in lab tests (i.e., more pollutants are released into less water), pollutant concentrations in leachate from sulfidic waste rock are expected to be higher under field conditions than in lab tests.

The magnitude of this model error is illustrated by comparing predicted effluent sulfate concentration in the proposed King Waste Rock facility to measure pore water compositions in existing Robinson Mine waste rock. Sulfate (SO₄) is used in this comparison because it is a direct product of sulfide S mineral oxidation.

In the model presented in the DEIS, the initial pore water in the proposed King Waste Rock Facility is predicted to be ~1,000 mg/L SO₄ under the “worst case” assumption. This model concentration is for “the first flush,” and is then “followed by exponentially decreasing concentrations,” with “worst case” concentrations decrease to ~600 mg/L during the “second flush” (Stantec 2020, p. 16).

For a field comparison, estimates for measured pore-water composition in non-acid-leached sulfidic Robinson waste rock are presented in an earlier waste rock management plan

(RNMC, 2014). In samples collected from borings in the Lane City waste rock facility (sulfide S between 0.99% and 3.4%, but with pH above ~6), sulfate concentrations in pore water ranged from ~4,500 to 15,000 mg/L (RNMC 2014, Figure 7-3).³ [Parameters used to estimate pore water sulfate from measured electrical conductivity in waste rock are based on 0.091 gravimetric moisture in the rock sample, electrical conductivity measured in 2: 1 water: rock mixtures using deionized water, ~0.65 mg TDS/L per uS/cm conductivity, and ~60% of the TDS as sulfate.] That is, pore water sulfate concentrations measured in an existing waste rock facility that is NOT acidic ranged from ~4 to 15 times higher than the “worst case” model estimate for the proposed King waste rock facility. In existing waste rock from the Lane City waste rock that was acidic (pH between ~4 and 6), pore-waters contained up to ~20,000 mg/L sulfate, or 20 times higher concentration than the “worst case” expected in the DEIS.

This large and systematic model underestimate for sulfate concentrations in waste rock leachate used to support the EIS should be addressed by: 1) Revising the pollution release model so that it considers both water flux and pollution release rates over time in waste rock; and 2) Calibrating this revised model of waste-rock leachate to the large amount of existing data on pore water solute concentrations in Robinson Mine waste rock.

2. The model used to estimate the pollutant load from the proposed waste rock facilities assumes, incorrectly, that the vegetated cover will exclude oxygen; as a result, the model dramatically underestimates the long-term rate of pollution release.

By assuming that the waste rock becomes completely anoxic as soon as the 1.5-ft vegetated closure cover is emplaced (Stantec 2020, p. 11), the water quality model ignores the rate at which further oxidation in the proposed waste rock facilities would release pollutants to percolating water. Considerable research has gone into designing mine-waste covers that effectively exclude oxygen, and results demonstrate that excluding oxygen is in fact an effective means for stopping sulfide mineral oxidation. But the proposed 1.5-ft thick vegetated cover for the King or Tripp waste rock facilities will almost certainly not drive the pore-gas oxygen concentration to zero. The cover ineffectiveness is particularly true in semi-arid climates like at the Robinson Mine, where low levels of moisture saturation produce higher values for air conductivity.

What would actually happen in the proposed King or Tripp waste rock facilities is that the sulfide S minerals in the rock would continue to oxidize, releasing pollutants to percolating pore water. The solute concentrations would decrease over time as sulfide S minerals oxidize, but rather than a rapid decrease predicted by the DEIS model (e.g., ~70% decrease predicted in concentration after the first pore volume is flushed), concentrations would be more likely to decrease very slowly over centuries to millennia.

The model of pollution release from the proposed waste rock facilities needs to be revised so that it incorporates realistic estimates for oxygen flux into the waste rock facility, and then provides the associated concentration of pollutants in seepage from the waste rock.

3. Because the proposed King and Tripp waste rock facilities would be a perpetual source of pollution and would release pollutants much faster than predicted in the DEIS, the facility designs should be enhanced to include covers that permanently exclude oxygen.

As detailed in GBRW's previous comment, the impacts on groundwater from the proposed King and Tripp waste rock facilities are based on a model that dramatically underestimates actual expected rates of pollution release. Model error #1 is to assume that solute concentrations measured in laboratory weathering tests (humidity cells) will represent directly concentrations under field conditions. Model error #2 is to assume that the pore space in the waste rock will be totally anoxic as soon as a vegetated cover is emplaced, so that pollution release by sulfide mineral oxidation ceases as soon as the cover was emplaced.

BLM needs to require a design, delineated in the EIS, for the proposed King and Tripp waste rock facilities that actually does include a capping layer that will permanently exclude oxygen. Emplacement of the waste rock excavated from the Liberty Pit under such an oxygen barrier would dramatically slow the dissolution and transport of pollutants bound in sulfidic minerals. Numerous model and field studies have been conducted to design layers in mine-waste that can permanently impede oxygen flow. See for example the recent presentation by Steven Pearce, given at the December 2020 Metal Leaching/Acid Rock Drainage conference, which is freely accessible on line (Pearce et al., 2020).

4. The Ruth Pit Lake as proposed is likely to cause a significant ecologic risk and degrade groundwater.

The hydraulic and geochemical models used to support the EIS indicate that the lakes that would form in the Ruth Pit will have cause "potential ecological risks to selected bird and mammal species," and listing specifically "copper as a Constituent of Potential Concern (COPEC) in the Ruth West Pit lake and copper fluoride and pH as COPECs in the Ruth East Pit lake" (DOI&BLM 2020). As a result, closure plans will need to include perpetual funding mechanism to provide long-term monitoring and treatment of the Ruth Pit lake.

Forecasts of water quality in mine pit lakes are notoriously unreliable. In particular, the model used to forecast water quality in the Ruth Pits (Piteau 2019)⁴ does not meet even the basic standards expected for an environmental assessment of impacts on public land. The description of model parameters and computational implementation are vague, and the report does not present a mathematical formulation illustrating how pollution loads are summed over time. Most importantly, the Ruth Pit Lake water quality model does not account for the fundamental property of sulfidic mine waste: The oxidation and association pollution release from minerals containing sulfide S occurs over time, so that the mass of pollutants release depends on the duration over which the pit walls are exposed to atmospheric oxygen. In the Ruth pit lake model, the load of pollutant release from wall rock by runoff and groundwater flushing are derived from "weekly HCT [humidity cell test] leachates" (Piteau 2019, Pg 35). What is missing from this model is an accounting of the cumulative amount of sulfide mineral oxidation that will occur in wall rock between when it is exposed to the atmosphere by excavation and when it is ultimately isolated again by inundation below the lake.

In fact, there is a huge potential for the production of acidic leachate to the Ruth Pits. In the lower 600 ft of the both the East and West Ruth pits (between ~5700 and 6300 ft elevation amsl), most of the wall rock will be net-acid generating (Piteau 2019, Figure 3.20). Most of this acid-generating wall rock will oxidize over decades. Oxidation will start when it's exposed by excavation, and not stop until inundated by the lake. Based on predicted Ruth lake infilling, the zone where most Ruth Pit wall rock is acid generating (below the 6300 ft amsl) won't be flooded until 20 years after mining in the Ruth West Pit, and ~45 years in the Ruth East Pit (Piteau 2019, Figure 5.10). As a result, the water quality in the East and West Ruth pit lakes will almost certainly have much higher concentrations of acid, sulfate, and metals than predicted by the model used to support the DEIS.

Given the geochemical nature of the Ruth Pits as mentioned above it is mostly likely the Ruth Pit lake will have elevated levels of a number of constituents including sulfate that will degrade groundwater once water begins to flow out of the pit lake. The outflow character is predicted by the operator of the Robinson mine. Thus, the Ruth Pit lake can be expected to violate Nevada Law.

GBRW recommends that KGHM and BLM reconsider Alternative D, backfilling the Ruth Pit with waste rock. Alternative D should eliminate the need for perpetual care. The water that initially floods the backfill will undoubtedly exceed NV drinking water standards, so the EIS will need to describe a mitigation plan for pumping and treating groundwater in the backfill. Other mines have proposed chemically amending backfill to precipitate solutes in place, or pumping and treating the flooded backfill until it meets applicable groundwater quality standards. But by placing sulfidic waste rock below the water table, it should stop oxidizing and therefore remain perpetually stable without requiring active long-term management.

In response to the large uncertainty in the forecast of water quality in the Ruth Pit Lakes, closure planning that includes these lakes needs to set bonds based on treatment costs assuming worst-case lake water quality.

5. Potential for Water Pollution

There must be a contingency plan of how to deal with an unexpected increase in acid generation in the waste rock piles and the leach pads as mining proceeds.

GBRW is also very concerned about the long-term evolution of the various mining open pits that have degraded water and in particular is the expected flow through nature of the Ruth West Pit Lake, and thus would degrade groundwater in violation of Nevada law. The EIS needs to deeply analyze the groundwater model, geochemical characteristics, and hydrodynamics of the entire site to clarify how the various components of the site will behave over time and to fully understand the potential to degrade waters of the state.

Under NEPA and FLPMA, BLM is required to fully analyze the current/baseline conditions of the site (including on public and private lands), and all direct, indirect, and cumulative impacts from existing and proposed facilities and operations. Under FLPMA, the Clean

Water Act, Nevada law/regulation, and other applicable laws, BLM must ensure that all facilities and activities comply with all federal and state water, air, and environmental quality standards, which does not appear to be the case at the site.

GIROUX WASH TAILINGS STORAGE FACILITY

The pumpback system for the sulfate plume pumped about 12.3 million gallons of water in 2017,⁵ and state of Nevada required quarterly monitoring reports since indicate that the pumping rate has not decreased. The first quarterly report of 2020 shows highly contaminated water with sulfate and total dissolved solids (TDS) as high as 1,500 and 4,030 mg/L respectively in well PW-2.⁶ Furthermore, the elevated levels are consistent and there is some indication when comparing the fourth quarter monitor report from 2017 with the first quarter report from 2020 that sulfate and TDS levels are increasing at least for well PW-2.⁷ The issue of the contamination plume needs to be fully evaluated in the EIS, specifically to identify the boundaries of the plume, the specific source cause, and an estimation of how long the pumpback system will be required. The current reclamation plan has calculated a 20-year cost for the pumpback system, and BLM needs to address the potential of longer time horizon to estimate long-term closure and management costs for this facility

RECLAMATION SCHEDULE UNDERESTIMATES LONG-TERM MANAGEMENT

The Robinson mine End of Mine Life (EOML) reclamation schedule indicates that all site monitoring and management will be completed in the fourth quarter of 2051.⁸ KGHM clearly does not anticipate the need for perpetual management or even very long-term management on the order of 100 years or more. GBRW believes this to be in serious error as discussed above the extent of water pollution is likely to be much greater than presented by KGHM, and monitoring will be needed well past 2052 even under the current plan of development.

ALTERNATIVES TO PERPETUITY TREATMENT ARE NEEDED

There must be a detailed analysis of scientifically sound (Because of the errors in the estimation of water pollution the correct non-perpetual care mine plan is not technically sound) approaches to close the mine site without the need for perpetual treatment, even if these alternatives seem infeasible on the surface. It is important for the public to be informed about this option and decide for themselves if perpetual care is acceptable. Federal law requires that the mine operator “must minimize uncontrolled migration of leachate; and ... Long-term, or post-mining, effluent capture and treatment are not acceptable substitutes for source and migration control, and you may rely on them only after all reasonable source and migration control methods have been employed,” (43 CFR Part 3809.420).

PROJECT APPROVAL WOULD VIOLATE FLPMA'S UUD MANDATE

As delineated above the methodology for the determination of water pollution is fundamentally flawed, and long-term active management will be required to avoid degradation at the very least of groundwater. However, KGHM in its documentation and reclamation plan erroneously do not anticipate and therefore do not plan for very long-term

perpetual management lasting hundreds of years. At a minimum the Ruth Pit Lake, Keystone Waster Rock Dump, and the King and Tripp waste rock facilities are likely to cause “unnecessary and undue degradation” at the Robinson site. Pursuant to FLPMA and the Part 3809 regulations, BLM cannot approve any operations that may result in the degradation of either the quality or the quantity of surface and ground waters or other potentially affected resources.

Taken together, the significant, and in many cases unmitigated, damage to critical environmental, cultural, historical, and religious resources noted herein fails to comply with FLPMA’s mandate that BLM “shall ... take any action necessary to prevent unnecessary or undue degradation of the lands.” 43 U.S.C. § 1732(b). This is known as the “UUD” standard. As the leading FLPMA and mining federal court decision states, this duty to “prevent undue degradation” is “the heart of FLPMA [that] amends and supersedes the Mining Law.” *Mineral Policy Center v. Norton*, 292 F.Supp.2d 30, 42 (D.D.C. 2003).

FLPMA, by its plain terms, vests the Secretary of the Interior [and BLM] with the authority – and indeed the obligation – to disapprove of an otherwise permissible mining operation because the operation, though necessary for mining, would unduly harm or degrade the public land. *Id.* “FLPMA’s requirement that the Secretary prevent UUD supplements requirements imposed by other federal laws and by state law.” *Center for Biological Diversity v. Dept. of Interior*, 623 F.3d 633, 644 (9th Cir. 2010).

The fact that the Keystone dump and other facilities may have been approved or begun operations prior to FLPMA’s passage in 1976 does not eliminate BLM’s current duties to protect public land and resources from all activities that threaten public resources (including those activities that may originate on non-federal land).

BLM complies with this mandate, among its other authorities, “by exercising case-by-case discretion to protect the environment through the process of: (1) approving or rejecting individual mining plans of operation.” *Id.* at 645, quoting *Mineral Policy Center*, 292 F.Supp.2d at 44. The Ninth Circuit has stressed the “environmental protection provided by the MPO [mining plan of operation] process.” *Center for Biological Diversity*, 623 F.3d at 645 (emphasis in original).

BLM cannot approve a mining plan of operations that would cause “unnecessary or undue degradation.” 43 C.F.R. § 3809.411(d)(3)(iii). BLM’s mining regulations further require that all operations “must take mitigation measures specified by BLM to protect public lands.” 43 CFR § 3809.420(a)(4). This, and the other performance standards in §3809.420 (especially those requiring reclamation and environmental protection), must be complied with. As just one example, a mine that requires perpetual treatment is essentially never reclaimed. Under FLPMA and the Part 3809 regulations, BLM cannot approve operations that cannot be reclaimed, or allow activities on federal land to continue that do not fully protect all public resources, now and in the future.

For example, under the BLM's Solid Minerals Reclamation Handbook, H-3042-1, "it is a statutory mandate that BLM ensure that reclamation and closure of mineral operations be **completed** in an environmentally sound manner." (3042-1 at p. I-1, citing FLPMA and the 1970 Mining and Minerals Policy Act)(emphasis added). Allowing perpetual discharge and treatment is not "completing" reclamation, as required. The Handbook also notes that FLPMA precludes BLM from authorizing operations that may result in "permanent impairment of the productivity of the lands and the quality of the environment." Id. (emphasis in original). Under more specific "reclamation standards", "there shall be no contaminated materials remaining at or near the surface." Id. at p. I-4. Overall, perpetual pollution and treatment does not comply with the reclamation and other requirements of the Handbook. <https://www.ntc.blm.gov/krc/uploads/239/Solid%20Minerals%20Reclamation%20Handbook%20H-3042-1.pdf>

As noted herein, BLM violated these overarching duties. In addition, BLM must comply with its duties under FLPMA Title V and Special Use Regulations (43 CFR Parts 2900/2920) for the access roads, required rights-of-way, and other routes across public land that are proposed.

SUMMARY

In general, the reclamation and plan for closure of the Robinson Mine still does not acknowledge the likely need for perpetual management, and the DEIS fails to provide the full assessment under federal law. Of course GBRW would prefer that the mine is closed in such a manner that would not require perpetual management, but the plan as proposed fails as discussed above to correctly determine the expected water pollution at the site in the long-term. Therefore, the closure and reclamation plan is inherently wrong and must be corrected. BLM needs to work with the state of Nevada to ensure that there exists adequate financial assurances including a long-term funding mechanism to close the mine site and protect the community and its environment.

Our analysis foresees significant water pollution and likely groundwater contamination given the proposed mine and closure/reclamation plan. If BLM approves this mine plan then it will be in effect acting as an agent for the company and not engaging in supporting the public good.

In addition the public has a ***right to know*** what to anticipate in the process of closing the Robinson mine. The BLM has a responsibility to ensure that the public is fully informed as to actions on public lands and communities need to fully understand the consequences of hosting a mining operation. GBRW is very concerned that the nearby community has not been informed and that governmental agencies and the mining company have not been fully transparent in regards to the potential need for perpetual management. It is important for the public to be informed about this option and decide for themselves if perpetual care is acceptable.

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 style with a large, looping initial "J".

John Hadder, Director, Great Basin Resource Watch
(775) 348-1986, john@gbrw.org

A handwritten signature in black ink that reads "Ian Bigley". The signature is written in a cursive style with a long, sweeping underline.

Ian Bigley, Mining Justice Organizer, Progressive Leadership Alliance of Nevada
(775) 772-8393, ibigley@planevada.org

¹Nevada Division of Environmental Protection, Bureau of Mining Regulation and Reclamation (BMRR), "Water Pollution Control Permit (WPCP) NEV0092105, Fourth Quarter 2018 and Fourth Quarter 2017 Reports for Robinson Nevada Mining Company." January 20, 2019 and January 21 2018.

²Stantec 2020. Liberty East Expansion: Waste Rock Facility Seepage Modeling: Screening Level Assessment, Robinson Mine. Stantec Consulting Services, July 2, 2020.

³Robinson Nevada Mining Company (RNMC), 2014. Robinson Operation, Comprehensive Waste Rock Management Plan, Revision #5.1. Robinson Nevada Mining Company, Robinson Operation. May 8, 2014.

⁴Piteau 2019. Robinson Nevada Mining Company, Ruth West 5 Pit Lake Study. Prepared by Piteau Associates, March 2019.

⁵"Giroux Wash Tailings Storage Facility Pump Back System 2017 Annual Report," February 19, 2018.

⁶ Nevada Division of Environmental Protection, Bureau of Mining Regulation and Reclamation (BMRR), "Water Pollution Control Permit (WPCP) NEV0092105, First Quarter 2020 Report for Robinson Nevada Mining Company." April 22, 2020.

⁷ Nevada Division of Environmental Protection, Bureau of Mining Regulation and Reclamation (BMRR), "Water Pollution Control Permit (WPCP) NEV0092105, Fourth Quarter 2017 Report for Robinson Nevada Mining Company." January 30, 2018.

⁸ KGHM, "KGHM – Robinson Operation, POO Amendment, Minor Modification and 3-Year Update to Reclamation Plan Revision for Disturbance through End of Year 2018," January 19, 2016