



June 20, 2023

Carl Petrik
Acting Forest Supervisor
Black Hills National Forest
1019 N. 5th Street
Custer, SD 57730

Re: Support for the Pactola Reservoir – Rapid Creek Watershed Mineral Withdrawal

Dear Acting Forest Supervisor Petrik:

Please accept these comments on behalf of Black Hills Clean Water Alliance in response to the *Notice of Application for Withdrawal and Notification of Public Meeting, Pactola Reservoir – Rapid Creek Watershed; South Dakota* published by the Department of the Interior, Bureau of Land Management in the Federal Register on March 21, 2023. 88 Fed. Reg. 17006 (March 21, 2023). The Black Hills Clean Water Alliance and its membership, and for reasons detailed below, strongly support the proposed mineral withdrawal of approximately 20,574 acres of land near and within the Pactola Reservoir and Rapid Creek Watershed area and ask that it be expanded.

The Black Hills Clean Water Alliance (BHCWA) is a non-profit conservation organization dedicated to preventing future radioactive and destructive mining in the Black Hills region to protect the region's valuable resources – especially water – for future generations. The Alliance is a diverse collection of citizens concerned about the health, environmental, and economic impacts that irresponsible mining projects would have on communities, people, economy, and natural resources. BHCWA has offices in Rapid City, South Dakota.

I. Introduction

The United States Forest Service has filed an application with the Department of the Interior's Bureau of Land Management requesting that the Secretary of the Interior withdraw 20,574 acres of National Forest System lands in Pennington County, South Dakota from all forms of entry, appropriation, and disposal under the public land laws; location, entry, and patent under the mining laws; and operation of the mineral leasing, mineral materials, and geothermal leasing laws, subject to valid existing rights. The proposed withdrawal would be for a period of 20 years "to protect the cultural and natural resources of the Pactola Reservoir – Rapid Creek Watershed, including municipal water for Rapid City and Ellsworth Air Force Base, from adverse impacts of minerals exploration and development." 88 Fed. Reg. 17006.

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The proposed withdrawal proposal is a welcome development and should be made final. The Black Hills have historically suffered greatly from the extensive impacts of mining development, and the region is undergoing another spike in mineral exploration and mining proposals. Given the lack of consideration provided for other culturally and economically valuable uses of National Forest lands and resources under the federal mining laws, a withdrawal is the only effective mechanism to protect these uses and values from the outsized impacts of mining exploration and development.

II. Benefits from Proposed Withdrawal

Mining activities can seriously impair a region's ecosystems, wreaking havoc on the landscape, drying up critical seeps and springs, disturbing fish and wildlife, and releasing heavy metals into waterways. The proposed withdrawal would protect and enhance critical water resources, wildlife, recreation, our economy, cultural resources, public health, and air quality.

a. Water Resources

The proposed withdrawal would help to protect water resources. A primary concern attending mining development in the proposed withdrawal area involves the contamination and depletion of surface and ground waters that make up the Pactola Reservoir – Rapid Creek Watershed area. Both exploration and mining activities risk contamination of surface and ground water, including waters used for domestic and agricultural uses, among others.

Several scientific reviews have been conducted regarding the Rapid Creek Watershed and the existing and potential threats from mining-related activity. These scientific documents demonstrate the wisdom of the proposed withdrawal to ensure protection of water quality in Pactola Reservoir and the Rapid Creek Watershed.

For instance, the attached “Upper Rapid Creek Watershed Assessment: An Evaluation Of Conditions Impacting Water Quality in North Fork Rapid Creek, Castle Creek, and North Fork Castle Creek in the Black Hills, South Dakota, November 2004” prepared by Dr. Scott Kenner, Chairman and Associate Professor, Civil and Environmental Engineering Department, South Dakota School of Mines and Technology and Scott Miller, A. J. Silva, and Charles Tinant funded by South Dakota Department of Environment and Natural Resources, South Dakota Department of Game Fish and Parks, Black Hills Fly Fishers, and the Geological Society Of America (Exhibit 1) recounts the significant impacts associated with acid mine drainage occasioned on the watershed as a result of past mining, demonstrating the limited capacity of the Rapid Creek Watershed to absorb any further such impacts.

In addition, the attached “Review of Literature on Connections Between Rapid Creek and Other Water Sources: Implications for Gold Mining-Related Activity in the Rapid Creek Watershed,” prepared by Dr. Liliias Jarding, PhD (Exhibit 2), provides a conclusive demonstration as to the significant risks mining-related development presents to ground and surface waters in the Rapid Creek Watershed and the need to protect these water sources due to their important domestic uses by Rapid City and Ellsworth Air Force Base. Notably, this scholarly literature review underscores the highly complex nature of the surface and ground water regimes in this area, including the exceptionally dynamic, yet not fully understood, interactions between surface and ground waters. These variables

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demonstrate the need for the proposed withdrawal in order to ensure protection of the precious and irreplaceable freshwater resources associated with Pactola Reservoir and the Rapid Creek Watershed.

In the proposed withdrawal area, the primary types of mining would likely be hardrock mining. Hardrock mining and development have long been understood to have dramatic, and drawn out, negative impacts on water resources. According to an American Fisheries Society report authored by senior U.S. Fish and Wildlife Service staff, mining activities can cause the “long-term disruption of terrestrial and aquatic habitats and hydrologic systems often with extensive “off-site” impacts, e.g., stream pollution.” Lynn B. Starnes and Don C. Gasper, “Effects of Surface Mining on Aquatic Resources in North America” (Exhibit 3).¹ These impacts are accrued directly from mineral extraction, and also due to secondary mining impacts ranging from “urban development to support mining to the creation of road networks for exploration activities.” *Id.*

Hardrock mining can lead to disturbances from the extraction of ore as well as processing procedures where heavy metals are milled nearby the mining location. Surface mining operations can have the following impacts on water resources:

- Significant consumption of water resources, reducing water available for the natural environment and other uses.
- Altered soil and subsurface geologic structure, causing disruption to subsurface hydrologic regimes (subsurface subsidence from mining activities can dewater surface waters)
- Degradation of water quality in streams, requiring perpetual water treatment to reduce mining-related impacts. Surface disturbance from mining and exploration activities can significantly impact water quality, leading to erosion and sedimentation, destruction and dewatering of wetlands, and contaminating waters by exposing water to minerals. Impacted streams are often unable to attain the same level of water quality from pre-mining baselines.

Historic mining activities in the Black Hills have caused significant impacts to the ground and surface water ecosystems. These impacts formed the basis of concerns raised in two sets of comments submitted to the Black Hills National Forest by Ellsworth Air Force Base. February 5, 2020 Ellsworth Air Force Base Comment Letter Re: F3 Jenny Gulch Exploration Project; October 13, 2021 Ellsworth Air Force Base Comment Letter Re: F3 Jenny Gulch Exploration Project (Exhibit 4). In the first set of comments, then-Ellsworth Air Force Base Commander, Colonel Sara B. Deaver explains that the Base has permitted water rights to 3,000 acre-feet of water from Pactola Reservoir per year and that the Base has “concerns about threats to surface and groundwater” from the proposed mining exploration activity. Specifically, the Base expresses concerns that past mining operations “have been known to generate acid drainage and migration of heavy metals into water sources.” These concerns support the need for the Pactola Reservoir – Rapid Creek Watershed withdrawal.

Similarly, the City of Rapid City derives its water supply from the Rapid Creek Watershed and its connected aquifers. In order to protect these resources, the City passed Resolution 2020-011, affirming that “due to the potential risk to the Rapid City watershed, the City’s water supply, and the local

¹ Accessible at <https://fisheries.org/policy-media/policy-statements/afs-policy-statement-13/#:~:text=However%2C%20even%20with%20current%20regulations,and%20aquifers%20with%20toxic%20chemicals.>

economy the City expresses opposition to gold exploration and potential gold mining in the Rapid Creek watershed.” Resolution 2020-011, A Resolution Expressing Opposition to Gold Exploration in the Rapid Creek Watershed, February 3, 2020 (Exhibit 5).

Other examples of the extent of some of these impacts can be found in a study conducted jointly by the South Dakota School of Mines and Technology and the U.S. Geological Survey, Black Hills mine sites continue to spread water-borne toxic contamination hundreds of miles from their source, demonstrating the long-term and deleterious impacts mining activities can have on water quality, even far from the original mining site. Pfeifle, B.D., Stamm, J.F. & Stone, J.J. “Arsenic Geochemistry of Alluvial Sediments and Pore Waters Affected by Mine Tailings along the Belle Fourche and Cheyenne River Floodplains.” *Water Air Soil Pollut.* 229, 183 (2018)² (Exhibit 6). *See also* August 2018 South Dakota Newswatch article summarizing the same study (Exhibit 7). This study demonstrates that the proposed withdrawal is a reasonable, practical, and effective method for ensuring the protection of the valuable resources associated with Pactola Reservoir and the Rapid Creek Watershed.

Similar long-term water quality problems are evident at other Black Hills hardrock mining operations, particularly gold mines. These operations have been responsible for significant spill events of toxic industrial and mining fluids including cyanide, acid mine drainage, ANFO solution, hydraulic fluid, diesel fuel, and antifreeze. Summary of Northern Black Hills Gold Operation Spills Data derived from South Dakota Department of Agriculture and Natural Resources “Tank, Spills, and Environmental Events” map (Exhibit 8).

Acid mine drainage can have significant impacts on public health and on the health of stream ecosystems. After entering aquatic ecosystems, heavy metals accumulate in aquatic tissues and then move up the food chain. Effects of heavy metals in the environment can include “a decrease in aquatic reproductive capacity, respiratory and neurological problems, etc., and also due to its accumulation in the body (bioaccumulation) and their transmission to subsequent consumers, including humans, can have side effects.” Vajargah MF, “A review on the effects of heavy metals on aquatic animals,” *J. Fish Res.*; 5(5):22-26 (2021) (Exhibit 9).

Uranium mines in the southern Black Hills are similarly problematic, with published reports demonstrating that “close proximity of the mines sites to the Cheyenne River appears to promote elevated metal and radionuclide transport within the watershed, however the extent of their contribution is unknown.” Rohit K. Sharma, Keith D. Putirka, James J. Stone, “Stream sediment geochemistry of the upper Cheyenne River watershed within the abandoned uranium mining region of the southern Black Hills, South Dakota, USA,” *Environ. Earth Sci.*, 75:823 (2016) (Exhibit 10).

The proposed mineral withdrawal would protect against the future impacts to water resources from mining within the segregated area.

b. Wildlife

The central Black Hills, including the areas proposed for the mineral withdrawal at Pactola Reservoir and in the Rapid Creek Watershed contain outstanding and critically important wildlife habitat. These

² Accessible at <https://doi.org/10.1007/s11270-018-3836-8>

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valuable wildlife resources are threatened by mining related activities, and protection of these public lands through the proposed administrative mineral withdrawal would ensure that their wildlife and ecosystems thrive into the future.

As detailed by the South Dakota Game, Fish and Parks in comments to the Black Hills National Forest on the controversial proposed Jenny Gulch Exploration Project, the area included in the proposed withdrawal area contains important wildlife habitat for a multitude of sensitive and rare species, including Bighorn sheep, Osprey, Northern Goshawk, Dakota Vertigo, Smooth Green Snake, and Black Hills Redbelly Snake. *See* February 3, 2020 South Dakota Department of Game, Fish, and Parks Comment Letter Re: Jenny Gulch Exploration Drilling Project (Exhibit 11). For each of these species, the agency recognized the impacts from mining-related activities. *Id.* The agency particularly highlighted the need for protections for Bighorn sheep, which occupy the proposed withdrawal area. *See* Map of Occupied Bighorn Sheep Areas 2021 (Exhibit 12).

Mineral exploration and development have the potential to significantly alter the character of wildlife habitat in and around the withdrawal area. A number of impacts to wildlife would be avoided by prohibiting the development of these lands. Negative impacts that would be avoided include:

- An increase in road construction and traffic necessary to conduct exploration activities within the withdrawal area
- Mortality to species through road construction activities and vehicle collision
- The introduction and spread of exotic plants such as cheatgrass
- The fragmentation of wildlife habitat and populations
- Visual and noise disturbance activities from exploration and mining activities
- Environmental impacts affecting wildlife from the unplanned discharge of mining or exploration wastes into surface waters feeding into the Rapid Creek Watershed and Pactola Reservoir.

Mining and fossil fuel development are not appropriate within the proposed withdrawal area. As previously discussed, the Black Hills are already home to significant mining operations. Thus, it is appropriate that public lands uses are balanced, and wildlife and wild places be prioritized in some areas. The Pactola Reservoir – Rapid Creek Watershed withdrawal would accomplish that.

c. Recreation and Economic

The proposed mineral withdrawal will benefit and help protect recreational uses and values within the segregated area. The proposed withdrawal area supports a broad range of recreational activities which provide significant economic revenue to this region. These activities include hiking, fishing, kayaking, hunting, horseback riding, backpacking, and wildlife watching/photography, among many others. Pactola Reservoir is home to exceptional recreational opportunities, with record lake trout caught each year and large brown trout caught in Rapid Creek above and below the reservoir. Other reservoir facilities include a full service marina with gasoline, oil, groceries, and food service. Forest facilities include an 88-unit campground, a group campground, swim beach, picnic areas, two boat launches, a paved accessible trail, day use trails, and portions of both the Centennial and Deerfield trails. A National Forest Visitor Center on the south side of the dam is open seasonally and provides visitors with information about the building of the dam and forest management.

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Mining industrialization—roads, ore trucks, drill rigs, mines, other associated machinery and vehicle traffic—would fundamentally change the character of public lands surrounding Pactola Reservoir and the Rapid Creek Watershed, diminishing the opportunity for recreation. Potential impacts to wildlife and fisheries, including from the water quality issues addressed herein, could severely impact, even eliminate, hunting, fishing and photography opportunities in the area. This diminished natural value could foreclose other recreation and tourism assets. The proposed mineral withdrawal will protect these activities.

The protection of the natural resources that form the basis of the recreational and tourism activities through the proposed withdrawal will in turn protect the regional tourism economy connected to the area surrounding the proposed mineral withdrawal area. It is difficult to understate the economic value of the tourism industry in the Black Hills. According to the South Dakota Department of Tourism’s 2022 Economic Impact Report, the tourism industry around the Black Hills region accounted for upwards of \$1.8 billion in direct visitor spending in 2022. Economic Impact of Tourism in South Dakota – County Results 2022; Tourism Economics, prepared for South Dakota Office of Tourism (April 2023) (Exhibit 13). This amounts to almost 40% of the state total of \$4.7 billion. Pennington County alone, the location of the proposed withdrawal, represented an impressive \$933 million of these regional and state-wide numbers.

The withdrawal will help protect the positive economic impact associated with the natural values and tourism. These values are long-term and more sustainable versus the short-term and limited nature of those associated with mining activities.

d. Cultural Values

Mining activity in the proposed withdrawal area threatens cultural resources in the Black Hills. In the face of proposed mining exploration in the Rapid Creek Watershed, the Oglala Sioux Tribe passed Resolution 22-118 opposing those mining activities that “have significant impacts on our Treaty rights; cultural and religious resources and practice; and the environment.” Oglala Sioux Tribe Resolution 22-118 (July 22, 2022) (Exhibit 14). The proposed withdrawal, although it covers only a small portion of the Great Sioux Nation treaty lands, would help protect cultural resources in the areas covered by the withdrawal – and a for that reason, should be adopted. As explained below, the proposed withdrawal area should then be expanded to provide better protection of cultural resources.

III. Expansion of Withdrawal Area

As noted above, the stated purpose of the proposed mineral withdrawal is “to protect the cultural and natural resources of the Pactola Reservoir – Rapid Creek Watershed, including municipal water for Rapid City and Ellsworth Air Force Base, from adverse impacts of minerals exploration and development.” 88 Fed. Reg. 17006. The original proposal, however, only includes about 10% of the Upper Rapid Creek Watershed, all of which must be protected to give protection to the subject water supplies.

Protection of cultural resources requires expansion of the proposed withdrawal to the broader Black Hills, as 248,000 acres of the Black Hills – or 20% of the total – were under active mining claims as of April 26, 2023. Current Bureau of Land Management Mineral and Land Records System Active

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Mining Claims. Prepared by Mato Ohitika Analytics LLC. (April 26, 2023) (Exhibit 15). As the entire Black Hills is a sacred landscape of deep cultural significance to the Lakota and other tribal nations that have lived and traveled in the area for thousands of years, a broader mineral withdrawal would be necessary to protect cultural resources.

We therefore urge the Secretary to expand the area covered by the proposed mineral withdrawal.

IV. Conclusion

Mining in the Pactola Reservoir – Rapid Creek Watershed areas proposed for withdrawal poses an unacceptable risk to water resources, wildlife, recreation, the economy, and cultural resources in the Black Hills. This withdrawal, as expanded, would prevent these potential impacts through the duration of the withdrawal. We urge the Secretary to move forward on the basis of an Environmental Assessment (EA) to protect the Black Hills.

We applaud this action and we urge the Secretary to now protect this area by selecting the longest permissible withdrawal period: 20 years. We appreciate your time and consideration evaluating these comments; please do not hesitate to contact us should you wish to discuss them more.

Respectfully,



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