

KATHERINE M. BIDEGARAY  
District Court Judge, Dept. 2  
Seventh Judicial Court  
300 12<sup>th</sup> Ave. NW, Suite #2  
Sidney, Montana 59270

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Cardi Richards  
Clerk of District Court

**MONTANA FOURTEENTH JUDICIAL DISTRICT COURT, MEAGHER COUNTY**

MONTANA TROUT UNLIMITED,  
MONTANA ENVIRONMENTAL  
INFORMATION CENTER, TROUT  
UNLIMITED, EARTHWORKS, and  
AMERICAN RIVERS,

Plaintiffs,

v.

MONTANA DEPARTMENT OF  
ENVIRONMENTAL QUALITY, and  
TINTINA MONTANA, INC.,

Defendants,

and

MEAGHER COUNTY and BROADWATER  
COUNTY,

Defendant-Intervenors.

Case No. DV-20-10

Hon. Katherine M. Bidegaray

**ORDER GRANTING PLAINTIFFS'  
MOTION FOR SUMMARY JUDGMENT  
THAT DEQ VIOLATED MMRA AND  
MEPA, DENYING DEFENDANTS'  
CROSS-MOTIONS FOR SUMMARY  
JUDGMENT, DENYING TINTINA'S  
MOTION FOR EVIDENTIARY  
PROCEEDINGS AS MOOT, AND  
REQUIRING BRIEFS BY DEADLINE**

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## **INTRODUCTION**

Plaintiffs Montana Trout Unlimited, Montana Environmental Information Center, Trout Unlimited, Earthworks, and American Rivers (collectively "Plaintiffs") challenge the Montana Department of Environmental Quality's ("DEQ") permitting of a large new copper mine at the headwaters of Montana's Smith River. Tintina Montana, Inc., ("Tintina") proposes to construct and operate the Black Butte Copper Mine along Sheep Creek, a critical Smith River tributary that provides important spawning habitat for rainbow trout and other coldwater fish. The mine would generate millions of tons of toxic tailings and require the discharge of nitrogen-laden wastewater into Sheep Creek.

DEQ's issuance of the challenged permit is governed by Montana's Metal Mine Reclamation Act ("MMRA"), § 82-4-301, MCA, *et seq.*, and the Montana Environmental Policy Act ("MEPA"), § 75-1-101, MCA, *et seq.* Plaintiffs argue that, in issuing the permit for the Black Butte Copper Mine, DEQ violated numerous requirements of those statutes and their implementing regulations. In particular, Plaintiffs claim that DEQ failed to ensure the safety and stability of Tintina's tailings storage facility, failed to prevent excessive nitrogen from entering Sheep Creek and contributing to algal blooms that choke out fish and other aquatic life, and failed to consider reasonable alternatives to alleviate or avoid potential environmental harms.

This Court finds that DEQ's decision to permit the Black Butte Copper Mine was arbitrary, capricious, and unlawful.

## **LEGAL BACKGROUND**

DEQ's consideration of the Black Butte Copper Mine is subject to statutory requirements under the MMRA and MEPA that are intended to ensure that such

projects do not cause unreasonable environmental harm and that they implement the environmental mandates of the Montana Constitution, Mont. Const. art. II, § 3 and art. IX, § 1.

## I. MONTANA'S METAL MINE RECLAMATION ACT

The MMRA was enacted to allow for mining activity in Montana while "provid[ing] adequate remedies for the protection of the environmental life support system from degradation and provid[ing] adequate remedies to prevent unreasonable depletion and degradation of natural resources." § 82-4-301(2)(a), MCA. Among other requirements, the MMRA mandates that tailings storage facilities—which must function as permanent repositories for vast quantities of mine waste—meet rigorous design standards, use appropriate technologies and techniques, and provide for "protection of human health and the environment." § 82-4-301(2)(b), MCA. The Legislature also mandated "proper reclamation of mined land ... to prevent undesirable land and surface water conditions detrimental to the general welfare, health, safety, ecology, and property rights of the citizens of the state." § 82-4-301(3), MCA.

Before engaging in mining activities, the MMRA requires a person to obtain a mine operating permit from DEQ. § 82-4-335(1), MCA. Among other things, an application for a mine operating permit must include a plan detailing the design, operation, and monitoring of structures that will impound mine waste and water, and such plan must be "sufficient to *ensure* that the structures are safe and stable." § 82-4-335(5)(i), MCA (emphasis added). For large impounding structures that meet the MMRA's definition of "tailings storage facilit[ies]," § 82-4-303(34), MCA, permit applicants must meet additional, more stringent procedural and substantive

requirements under §§ 82-4-376 and 82-4-377, MCA.<sup>1</sup> These requirements include the submission of a design document, certified by an engineer, that evaluates the potential for proposed tailings storage facilities to release pollutants into the environment. § 82-4-376(2), MCA. "The design document must be submitted prior to the issuance of the draft permit" by DEQ, § 82-4-376(3), MCA, and reviewed and approved by an "independent review panel," § 82-4-377, MCA.

DEQ may not issue an operating permit to an applicant that fails to meet these standards. See § 82-4-337(1)(h)(v), MCA (providing that DEQ may not issue permit until it determines that "the application and the final permit meet the substantive requirements of" the MMRA).

## II. MONTANA ENVIRONMENTAL POLICY ACT

DEQ's authorization of the proposed mine is also subject to the environmental review requirements of MEPA, § 75-1-101, MCA, et seq. MEPA is designed "to promote efforts that will prevent, mitigate, or eliminate damage to the environment" and promote human health and welfare. § 75-1-102(2), MCA. To meet this purpose, MEPA requires DEQ to "take a 'hard look' at the environmental impacts of a given project or proposal." *Mont. Wildlife Fed'n v. Mont. Bd. of Oil & Gas Conservation*, 2012 MT 128, ¶ 43, 365 Mont. 232, 280 P.3d 877. Properly Implemented, "MEPA's procedural mechanisms ... enabl[e] fully informed and considered decision making, thereby minimizing the risk of irreversible mistakes depriving Montanans of a clean and healthful environment." *Park County Env'tl. Council v. Mont. Dep't of Env'tl. Quality*, 2020 MT

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<sup>1</sup> The MMRA defines "tailings storage facility" as a "facility that temporarily or permanently stores tailings ..." excluding facilities that "store[] 50 acre-feet or less of free water or process solution." § 82-4-303(34), MCA.

303, ¶ 70, -- P.3d --. DEQ must prepare an environmental impact statement ("EIS") before authorizing a proposed project if the project would "significantly affect[] the quality of the human environment." ARM 17.4.607(1); *see also* § 75-1-201(1)(b)(iv), MCA (requirements for preparation of environmental impact statement); ARM 17.4.609(3)(d) (same). In an EIS, the agency must disclose and consider, among other things, the direct, indirect, and cumulative environmental impacts of the action. § 75-1-201(1)(b)(iv), MCA; and ARM 17.4.609(3)(d) (requiring an evaluation of "impacts, including cumulative and secondary impacts, on the physical environment" and "the economic advantages and disadvantages of the proposal"). As part of this consideration, DEQ's rules require it to determine the significance of an action's individual and cumulative impacts, based on its evaluation of the probability and severity of impacts, growth-inducing aspects of the proposal, and "the importance to the state and to society of each environmental resource or value that would be affected." ARM 17.4.608(1). Further, DEQ may not dismiss potentially severe impacts as insignificant without "reasonable assurance ... that the impact will not occur." ARM 17.4.608(1)(b).

Additionally, DEQ must evaluate reasonable alternatives to the proposed action. § 75-1-201(1)(b)(iv)(C), (v), MCA. An "[a]lternative" is "an alternate approach or course of action that would appreciably accomplish the same objectives or results as the proposed action," and includes alternate "design parameters, mitigation, or controls other than those incorporated into a proposed action by an applicant or by an agency prior to preparation of an EA or draft EIS." ARM 17.4.603(2)(a). Alternatives must be "achievable under current technology" and "economically feasible as determined solely by the economic viability for similar projects having similar conditions and physical

locations and determined without regard to the economic strength of the specific project sponsor.” § 75-1-201(1)(b)(iv)(C), MCA.

One of MEPA's fundamental purposes is to inform and engage the public on decisions with significant environmental consequences. See § 75-1-102(1)(b), MCA (stating MEPA's purpose to ensure that “the public is informed of the anticipated impacts in Montana of potential state actions”). To that end, DEQ must make a draft EIS available to the public and responsible state and federal agencies for public comment, ARM 17.4.620, and must respond to substantive comments in a final EIS, ARM 17.4.619. Following its issuance of a final EIS, DEQ must issue a “record of decision” that provides “public notice of what the decision is, the reasons for the decision, and any special conditions surrounding the decision or its implementation.” ARM 17.4.629. In evaluating environmental impacts pursuant to MEPA, “[t]he agency must examine the relevant data and articulate a satisfactory explanation for its action, including a rational connection between the facts found and the choice made.” *Mont. Wildlife Fed’n*, ¶ 43 (quoting *Clark Fork Coal. v. Mont. Dep’t of Env’tl. Quality*, 2008 MT 407, ¶ 47, 347 Mont. 197, 197 P.3d 482).

### **III. THE MONTANA CONSTITUTION’S ENVIRONMENTAL PROTECTIONS**

Montana’s Constitution compels the state to prevent unreasonable environmental degradation to protect the public’s right to a clean and healthful environment. It protects Montanans’ inalienable “right to a clean and healthful environment,” and requires that “[t]he state and each person shall maintain and improve a clean and healthful environment in Montana for present and future generations.” Mont. Const. art. II, § 3; Mont. Const. art. IX, § 1(1). In addition, the Constitution requires that the Montana

Legislature “shall ... provide adequate remedies to prevent unreasonable depletion and degradation of natural resources.” Mont. Const. art. IX, § 1(3).

In enacting these provisions, the drafters of Montana's Constitution aimed to establish “the strongest environmental protection provision found in any state constitution.” *Park County Env'tl. Council*, ¶ 61 (quoting *Mont. Env'tl. Info. Ctr. v. Mont. Dep't of Env'tl. Quality* (“MEIC”), 1999 MT 248, ¶ 66, 296 Mont. 207, 988 P.2d 1236). To that end, these provisions do not “merely prohibit that degree of environmental degradation which can be conclusively linked to ill health or physical endangerment.” *MEIC*, ¶ 77. Rather, they provide environmental “protections which are both anticipatory and preventative.” *Id.*

The Montana Legislature enacted the MMRA and MEPA to help meet its constitutional obligation to prevent unreasonable environmental degradation. See 2003 Mont. Laws ch. 361, § 5 (HB 437); see also § 75-1-102(1), MCA (MEPA's purpose), § 82-4-302, MCA (MMRA's purpose); see *Park County Env'tl. Council*, ¶ 67 (“MEPA serves a role in enabling the Legislature to fulfill its constitutional obligation to prevent environmental harms infringing upon Montanans' right to a clean and healthful environment”). Accordingly, those statutes must be interpreted to serve their constitutional purpose. To the extent any provision of the MMRA or MEPA allows for unreasonable environmental degradation, it would violate Plaintiffs' environmental rights guaranteed by Article II, Section 3 and Article IX, Section 1 of the Montana Constitution. See *MEIC*, ¶ 80.

## FACTUAL BACKGROUND

### IV. SHEEP CREEK AND THE SMITH RIVER

The Black Butte Mine would be located adjacent to Sheep Creek within the Smith River watershed, about 19 river miles upstream from its confluence with the mainstem Smith River. AR-045750, 045964.<sup>2</sup> The Smith River originates high in the Castle Mountains of central Montana and flows through remote canyons before emptying into the Missouri River about 10 miles upstream of Great Falls. See AR-045927 (map). The “Smith River State Park and river corridor has statewide significance as an iconic recreational experience that is coveted by many Montanans and out of state visitors,” and provides opportunities for “viewing wildlife, experiencing some very wild country and solitude,” as well as outstanding opportunities for fishing. Supp\_AR-6.

To recognize and preserve these exceptional values, in 1989, the Montana Legislature enacted the Smith River Management Act, § 23-2-401, MCA *et seq.*, which requires the State to manage the Smith River to: “(1) allow the continuation of compatible existing recreational and public land uses; (2) maintain the opportunity to enjoy the natural scenic beauty and solitude; and (3) conserve fish and wildlife and scientific and recreational values.” § 23-2-407, MCA. As a result of these protections, as well as the high public demand to experience the Smith River’s exceptional fishing and recreational opportunities, the Smith River is Montana’s only river subject to a recreational permitting program. AR-045997.

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<sup>2</sup> Plaintiffs’ citations are to the administrative record (“AR”) that DEQ lodged with the Court on September 15, 2020, and supplemented on November 25, 2020, and to Plaintiffs’ supplemental AR (“Supp-AR”) submitted on December 16, 2020.



In recent years, Montana Fish, Wildlife and Parks (“FWP”) has awarded roughly 1,000 permits annually, resulting in more than 5,000 floaters and anglers using the river. AR-045998. “In 2017, interest in private float permits increased for the seventh consecutive year and total river use was at an all-time high .... [I]nterest in floating the Smith River has nearly doubled in the past 10 years with 5,823 permit applications received in 2008 and 10,007 received in 2017.” AR-045998. In 2015, FWP estimated that the Smith River supported nearly 19,000 angler days, from both resident and non-resident anglers. AR-045994. Tributaries of the Smith are important trout fisheries in their own right: for example, Sheep Creek supported 679 angler days in 2015 and 1,139 angler days in 2013. AR-045994.

The Smith River ecosystem depends on clean water from the river’s tributaries to sustain the aquatic life within its banks. Sheep Creek provides approximately 30 percent of the flow of the Smith River at their confluence during late summer baseflows. AR-045941.

## **V. THE BLACK BUTTE COPPER MINE**

Tintina proposes to build and operate a large copper mine in the Smith River watershed. The Black Butte Copper Mine would extract 14.5 million tons of copper ore from the Johnny Lee Deposit—about 440 tons of copper per day over the 13-year active lifetime of the mine. AR-045752. On average, eighteen trucks carrying the concentrate would leave the mine every day and travel on county roads and state highways to rail terminals in Livingston and/or Townsend. AR-045752-53. The mine would also generate approximately 12.9 million tons of tailings—acid-generating processed

minerals separated from the copper ore—and 0.8 million tons of waste rock. AR-045788-89.

The Johnny Lee Deposit is a sulfide ore body, which contains minerals that produce high levels of acids and toxic metals when exposed to air and water. Supp\_AR-208, 241-42, 254-55. Mining sulfide ore bodies, particularly close to ground or surface water, presents inherent pollution risks, and even careful water treatment and tailings waste management may be insufficient to avoid discharging noxious chemicals to adjacent groundwater or surface water. Supp\_AR-26-35, 40-41, 208-09. As a result, mines in sulfide ore bodies frequently contaminate groundwater and nearby surface water with acid or heavy metals. See Supp\_AR-26-35 (summarizing case studies); Supp\_AR-40-41 (same). Sulfide-ore mines in Montana and across the country have caused severe pollution of drinking water aquifers, farmland, and surface waters, and resulted in losses of fish and wildlife and their habitat. Supp\_AR-26-35; Supp\_AR-40-41. At numerous mine sites, water quality impacts are so severe that acid mine drainage will generate water pollution in perpetuity. Supp\_AR-35 (case studies); Supp\_AR-40-41 (case studies); Supp\_AR-26-35 (describing conditions necessitating perpetual water treatment).

As part of constructing and operating the mine, Tintina would continuously pump groundwater drawn into mine shafts and voids. AR-086430; *see also* AR-034355 (groundwater modeling assessment predicting water flowing into mine workings at rates up to 500 gallons per minute). Because this groundwater would carry high levels of metals and nutrients inside the mine, Tintina proposes to treat unused groundwater in a reverse osmosis plant before discharging it to an underground infiltration gallery, which

would consist of a series of trenches in the alluvial aquifer under Sheep Creek. AR-045790 (describing reverse osmosis treatment); AR-045884-86 (describing groundwater quality). Tintina would discharge water to the underground infiltration gallery at an average rate of 398 gallons per minute. AR-045790. After passing through the alluvial aquifer, the effluent would discharge to Sheep Creek. AR-045914.

The 12.9 million tons of tailings and 0.8 million tons of rock waste generated by Tintina's excavation activities would contain high levels of acid-generating minerals and toxic metals, including nickel, thallium, strontium, copper, lead, arsenic, and uranium. See AR-045885; 045978; 046204. Tintina would dispose of about half of the tailings by backfilling underground areas of the mine with a mixture of cement and tailings. AR-045789. Tintina would deposit the remainder of the tailings and all the waste rock aboveground in a tailings facility. *Id.*

The 72-acre tailings facility—which would cover more area than 54 football fields—would sit on the side of a hill overlooking Sheep Creek. AR-045781, 047583. The facility “was designed to hold 4.7 million cubic yards of cemented tailings, 703,606 cubic yards of waste rock, and 400,000 cubic yards of storm water from a probable maximum flood event.” AR-045789.

According to Tintina's specifications, a retaining dam would prevent the tailings facility from collapsing and discharging mine waste directly into Sheep Creek. See AR-070598-99 (Mine Operating Plan describing “high hazard dam” classification for tailings facility). Additionally, Tintina proposes to convert the tailings into a “non-flowable (after placement), low-strength solid”, AR-045949, by consolidating them with cement, slag, and/or fly-ash, AR-045788. According to Tintina, “[t]his precludes the risk of liquefaction

or widespread release of tailings in response to impoundment failure or seismic events.”  
AR-045949.

## **VI. DEQ’S REVIEW AND APPROVAL OF THE BLACK BUTTE MINE**

On December 15, 2015, Tintina applied to DEQ for a mine operating permit under the MMRA. AR-045749. After multiple project revisions and Tintina’s submission of new information, DEQ issued a Draft EIS for public comment in March 2019. AR-045749. In response, DEQ received more than 12,000 comments from the public—including numerous reports from independent technical experts—the vast majority of which were critical of the mine proposal. AR-045751; AR-086417-420 (summarizing issues of concern); AR-046493-529 (identifying commenters).

On March 13, 2020, DEQ issued a Final EIS. On April 9, 2020, DEQ issued a Record of Decision approving the issuance of a final operating permit for the Black Butte Copper Mine based on the Final EIS’s analysis. AR-086412-440. Upon Tintina’s payment of a bond, DEQ’s decision allowed Tintina to begin “Phase 1 Development Construction Activities,” which includes building roads and site preparation activities. AR-086425-27. However, before Tintina may conduct more extensive site and mine development activities, the Record of Decision stipulates that Tintina is required to obtain from the Department of Natural Resources and Conservation (“DNRC”) authorizations to appropriate groundwater and to mitigate the resulting streamflow depletions. AR-086426-27. Accordingly, while site preparation is underway, mine construction may not begin until DNRC finalizes water use authorizations for Tintina’s substantial groundwater withdrawal and mitigation scheme.

On June 4, 2020, Plaintiffs filed the instant lawsuit challenging DEQ's environmental review and permitting action.

### STANDARD OF REVIEW

The Court reviews DEQ's MEPA and MMRA analysis to determine whether it is "arbitrary, capricious, unlawful, or not supported by substantial evidence." *Mont. Env'tl. Info. Ctr. v. Mont. Dep't of Env'tl. Quality* ("MEIC II"), 2016 MT 9, ¶ 14, 382 Mont. 102, 365 P.3d 454 (quoting *Clark Fork Coal.*, ¶ 21). Under this standard, the Court determines, based on a careful review of the record, "whether the decision was 'based on a consideration of the relevant factors and whether there has been a clear error of judgment.'" *Id.* Although review under the arbitrary and capricious standard "is generally narrow," courts "will not 'automatically defer to the agency 'without carefully reviewing the record and satisfying themselves that the agency has made a reasoned decision.'"" *Clark Fork Coal.*, ¶ 21 (quoting *Friends of the Wild Swan v. Dep't of Nat. Res. & Conservation*, 2000 MT 209, ¶ 28, 301 Mont. 1, 6 P.3d 972). An agency fails this test in the MEPA context if it does not take a "hard look" at a proposal's environmental impacts. *Mont. Wildlife Fed'n*, ¶ 43. DEQ's legal conclusions are "review[ed] for correctness." *N. Cheyenne Tribe v. Mont. Dep't of Env'tl. Quality*, 2010 MT 111, ¶ 19, 356 Mont. 296, 234 P.3d 51.

Summary judgment is the appropriate mechanism for resolving a case where, as here, there are no "genuine issues of material fact" and the moving party is entitled to judgment as a matter of law. M.R.Civ.P. 56(c)(3). "Summary judgment is particularly appropriate where, as here, review is on the administrative record." *Montana v. EPA*, 941 F. Supp. 945, 956 (D. Mont. 1996), *aff'd*, 137 F.3d 1135 (9th Cir. 1998); *see Park*

*County Env'tl. Council*, ¶ 1 (affirming resolution of MEPA case on summary judgment); *Mont. Wildlife Fed'n*, ¶ 17, 24 (same).

## **DISCUSSION**

Plaintiffs argue that DEQ violated the MMRA and MEPA in issuing the operating permit for the Black Butte Copper Mine. Plaintiffs claim that DEQ's environmental review of the impacts associated with the mine contains numerous flaws that violate statutory and regulatory requirements, which render the challenged permit unlawful and threaten waters in Montana's Smith River watershed and the fish, wildlife, and recreation they support. This Court agrees, and holds unlawful the Final EIS, MMRA certification, and challenged mine operating permit for the Black Butte Copper Mine.

### **I. DEQ'S INADEQUATE ANALYSIS OF TINTINA'S TAILINGS FACILITY VIOLATED THE MMRA AND MEPA**

DEQ's MMRA and MEPA analyses are unlawful, first, because DEQ did not rationally consider and ensure the stability of the cemented tailings facility—the massive, above-ground structure that must permanently contain millions of tons of acid-generating minerals toxic to aquatic life. See § 82-4-335(5)(f), (MMRA) (requiring applicant to submit “a plan detailing the design, operation, and monitoring of impounding structures, including but not limited to tailings impoundments and water reservoirs, sufficient to ensure that the structures are safe and stable”); *Mont. Wildlife Fed'n*, ¶ 43 (MEPA requires agency to “take a ‘hard look’ at the environmental impacts of a given project or proposal”). DEQ further violated the MMRA by unlawfully exempting Tintina's proposed tailings facility from the additional rigorous substantive and procedural requirements for ensuring the safety of “tailings storage facilities” as defined by § 82-4-303(34), MCA. See §§ 82-4-376, 82-4-377, MCA (requirements for

ensuring the safety and stability of “tailings storage facilit[ies]”). This Court rejects DEQ’s interpretation of the MMRA to exempt Tintina’s tailings facility from heightened tailings facility design requirements both because it contravenes the plain language of § 82-4-303(34), MCA, and because DEQ’s interpretation, if accepted, would violate Plaintiffs’ fundamental constitutional right to a clean and healthful environment. Mont. Const., art. II, § 3, art. IX, § 1. By applying § 82-4-303(34), MCA, to Tintina’s facility in accordance with the statute’s plain language, the Court avoids this constitutional problem.

**A. DEQ Failed to Ensure the Safety and Stability of Tintina’s Tailings Facility**

DEQ violated the MMRA and MEPA by failing to evaluate or respond meaningfully to record evidence that the proposed design for Tintina’s tailings facility does not “ensure” that this impounding structure will remain “safe and stable,” § 82-4-335(5)(f), MCA, and may not effectively contain toxic mine waste. Specifically, DEQ failed to consider rationally whether the mine tailings mixed with 0.5 percent cement and binders, never studied by Tintina and DEQ, would form and maintain a solid, non-flowable mass.

Tintina identified non-flowability as “the principal design criteria” for the tailings disposed in Tintina’s proposed facility. AR-070614 (Mine Operating Plan Application). And DEQ’s review of the environmental hazards associated with failure of the facility’s retaining dam dismissed the possibility of widespread environmental damage because the tailings would be non-flowable, and thus “may slump in place but will not flow out to the downstream receiving environment.” AR-046235 (quotation and citation omitted). Similarly, despite record evidence that the cemented tailings could be susceptible to

liquefaction—whereby an otherwise solid material loses strength and flows like a liquid due to seismic activity, mine blasting, or slope instability—DEQ concluded that the cemented tailings “preclude the risk of liquefaction or widespread release of tailings in responses to impoundment failure or seismic events.” AR-045949; see also AR-046844 (Tailings Storage Facility Design Document concluding that assessments of liquefaction and loss of material strength “were not considered necessary to complete” because the tailings would be non-flowable); AR-000938 (Tintina Response to Public Comment) (stating that “[s]tability concerns regarding the [facility] are minimal because ... it will contain non-flowable and then solid cemented past tailings.”). In short, DEQ and Tintina relied on the non-flowability of the cemented tailings when ensuring and considering, as required by the MMRA and MEPA, the safety of Tintina's proposed tailings facility and the environmental consequences associated with failure of the facility's retaining dam.

The non-flowability of Tintina's tailings depends on three critical, yet unsupported, assurances from DEQ and Tintina: (1) the tailings, mixed with as little as 0.5 percent cement and binders and layered into the facility, would quickly harden into a solid mass; (2) the tailings would be insulated from exposure to oxygen and water, thereby preventing widespread chemical oxidation that would cause the tailings to disaggregate and turn acid; and (3) the tailings would not be susceptible to liquefaction, meaning that seismic activity such as an earthquake, mine blasting, or slope instability would not cause the tailings to lose their structure and flow like a liquid. DEQ's inadequate or irrational analysis with respect to any *one* of these assurances alone is enough to render DEQ's decision to permit the Black Butte Copper Mine arbitrary, capricious, and unlawful—yet DEQ failed to support all three assurances with adequate



testing and analysis. Instead, DEQ overlooked key omissions in Tintina's analysis and relied on evaluations of the physical strength and chemical stability of a tailings mixture that contained *four times* the concentration of cement that DEQ authorized Tintina to use and most often will use. AR-045949 (EIS stating that Tintina will mix tailings with between 0.5 to 2 percent cement and binders); AR-086509 (DEQ acknowledging that tailings mixture will most often contain closer to 0.5 percent binders); AR-085773 (results from physical strength tests on tailings mixtures containing 2 and 4 percent binders); AR-045803 (EIS discussing geochemical tests on tailings mixture containing 2 and 4 percent binders).

As a result, DEQ violated the MMRA and MEPA by permitting Tintina's proposed Black Butte Copper mine without offering "a satisfactory explanation for [DEQ's] action" in determining that Tintina ensured the safety and stability of its proposed tailings storage facility—and failing to adequately consider the environmental consequences associated with breach of the facility's retaining dam—"including a rational connection between the facts found and the choice made." *Clark Fork Coal.*, ¶ 47 (citing *Motor Vehicle Mfrs. Ass'n v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983)).

**1. Whether the Tailings Would Form a Stable, Non-Flowable Mass**

DEQ's analysis of CTF stability was arbitrary because DEQ did not consider whether Tintina's plan to layer millions of tons of cemented tailings into the facility without first allowing lower layers to achieve final set would prevent the tailings from forming a stable, non-flowable mass.

Plaintiffs argue that Tintina will routinely—and likely exclusively—layer fresh tailings over tailings that have not been allowed to reach final set. DEQ permitted Tintina to mix tailings with 0.5 to 2 percent cement, slag, or fly-ash, and dispose of the

cemented tailings in successive layers in a massive above-ground facility. AR-045949. Under the permit, Tintina would add new tailings layers into the facility every 7 to 30 days, AR-045803, though Tintina anticipates adding new layers even more frequently, on average every 7 to 15 days, AR-070510. Because Tintina expects new layers of 2 percent cement-paste tailings to take 28 days to set fully at the facility, AR-085773, new tailings layers would frequently be added before the previous layer had set even with the highest binders content authorized by DEQ. Moreover, DEQ acknowledged that, most often, the binders content of the tailings will be much closer to 0.5 percent than 2 percent. AR-086509. The administrative record shows that reducing the binders content of tailings significantly increases their drying time, making it a near certainty that lower layers with just 0.5 percent binders content will not have set before fresh tailings are deposited on them.<sup>3</sup> Yet DEQ did not evaluate whether the tailings will form a stable, flowable mass when fresh layers are consistently layered atop lower layers that have not fully set.

DEQ resists Plaintiffs' arguments by claiming that the 2 percent cemented tailings will quickly gain "compressive strength" before reaching final set after 28 days. DEQ Reply Br. at 14 (citing AR-085750). However, DEQ's argument relies on lab results showing the compressive strength of the cement binder at 1, 3, 7, and 28 days—results which are inapposite because they refer to the properties of just the binder

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<sup>3</sup> The tailings mixture containing 4 percent binders would be disposed of as backfill in the underground mine voids. AR-045983.

without the tailings. AR-085750; AR-060768-70.<sup>4</sup> Defendants also point to DEQ's statements that the cemented tailings will set up "in a matter of days," AR-046417, and that cement adders would "solidify the tailings shortly after their deposition," AR-086620. However, these non-specific assertions are not accompanied by record analysis to which this Court could defer. Indeed, the only analysis in the record on the strength of the cemented tailings reported null quantities on the 2 percent tailings mixture before 28 days, when it finally set, and no data on 0.5 percent tailings. See AR-085772. In short, Defendants have not supported their claims that the tailings with 0.5 to 2 percent binders content will solidify just a few days after Tintina deposits them into the facility. Instead, the record supports the contrary conclusion that Tintina will continually layer fresh tailings over wet tailings in the facility throughout the mine's 13-year operating lifespan.

The record does not demonstrate that Defendants considered the critical impact of drying time on their assumption that tailings will be non-flowable. This omission is troubling, as one study in the record showed that, when cemented tailings are layered over non-cemented tailings, the "drying of deeper layers of paste tailings appears to have been inhibited by addition of a final cemented-paste layer." AR-040810 (discussing Ichrak et al. (2016)). Although this study did not evaluate the impact of including a low concentration of 0.5 percent binders in lower layers, as Tintina

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<sup>4</sup> Further, DEQ's lawyer is not an expert to which this Court may defer, and in any event, this Court may not rely on post hoc rationalizations of counsel. *Montana-Dakota Utilities Co. v. Mont. Dep't of Pub. Serv. Regulation*, 223 Mont. 191, 196, 725 P.2d 548, 551 (1986) (affirming that "[u]pon judicial review, the validity of the decision must be judged on the grounds and reasons set forth in the order, and no other grounds should be considered") (citing *Burlington Truck Lines, Inc. v. U.S.*, 371 U.S. 156, 169 (1962)).

proposes, the absence of such evidence is exactly the issue: Defendants failed to evaluate the dry time issue for Tintina's proposed tailings management.

DEQ and Tintina's approach stands in stark contrast to other mines proposing non-cemented surface-paste tailings facilities, which have emphasized the importance of allowing tailings layers to set to ensure continued stability of the tailings mass. See AR-040805 (summarizing case studies). The first mine to implement surface paste tailings disposal in 2003 solved this problem by applying paste in thin lifts to ensure each layer would dry sufficiently "to provide required geotechnical stability." *Id.* That mine carefully balanced curing times with frequent deposition of new lifts, noting that when desiccation cracks formed in the paste tailings—which can be exacerbated by layering over wet tailings, see AR-040810—the tailings eroded and "they became unstable and lost geotechnical and environmental benefits." AR-040805. Yet Tintina and DEQ did not evaluate these same concerns for the Black Butte Copper Mine. See Tintina Opening Br. 37-44 (repeating conclusion that cemented tailings will ensure a "non-flowable mass" without addressing concerns about setting times).

Based on this record, DEQ arbitrarily made the critical assumption that Tintina's tailings will harden into a non-flowable mass without meaningfully evaluating the important factor of the drying time of 0.5 percent content tailings. See *Clark Fork Coal.*, ¶ 48 ("simple statement" that impact will not occur does not satisfy "hard look" standard).

## **2. Oxidation: Whether the Tailings would Remain Non-Flowable**

The Court also agrees that DEQ did not rationally evaluate the potential that oxidation could undermine the stability of the tailings facility. DEQ admitted that exposure to oxygen and water would cause the tailings to oxidize which—if

widespread—could cause Tintina's solid tailings to deteriorate and lose their structure. See AR-046239-41 (EIS); see also Supp\_AR-208 (expert comments re same). Indeed, Tintina's laboratory testing to simulate weathering of cemented tailings observed that test cylinders of 2 percent cemented tailings in lab settings go acidic within just 2 weeks and disaggregate after only 28 days. AR-046240-41 (EIS) (“[T]he test cylinders were unsupported and eventually disaggregated and further oxidized.”); AR-046330 (Dr. Zamzow comment that “[k]inetic lab testing indicates the pH of tailings ... began dropping within 2 weeks and was at pH 3.6 by week 4”). But while the record raises concerns about oxygen and water entering the tailings mass, DEQ did not meaningfully consider the resulting impact on the stability of the impoundment.

The Defendants address this issue first by stating that the chemical lab test was “extremely aggressive” as compared to the weathering conditions expected at Tintina's facility. Tintina Opening Br. 40. While the Court understands that lab tests do not perfectly replicate field conditions, the tests remain the only record evidence of tailings reactions in response to environmental conditions. The Court further notes that the weathering tests examined tailings mixtures of 2 percent and 4 percent binders, AR-045803—not the 0.5 percent binders permitted by DEQ. AR-045949. And although Tintina correctly observes that the test also observed raw tailings, those tailings immediately became acidic under laboratory conditions. There is no way for this Court to know based on the record whether 0.5 percent cemented tailings would be less reactive than raw tailings, let alone for DEQ to satisfy its obligations to “ensure” that Tintina's facility would be “safe and stable” and take a “hard look” at the proposed mine's impacts. ARM 17.4.608(1)(b) (requiring “reasonable assurance” that potentially

severe impacts will not occur); *see also Clark Fork Coal.*, ¶ 48 (stating that an “agency must supply a statement of reasons why potential impacts of a proposed action ... are nonsignificant” and mere assertions are insufficient) (citing *Ravalli Cty. Fish & Game Ass'n*, 273 Mont. at 382, 903 P.2d at 1370).

Tintina additionally claims that exposure to oxygen and water causing widespread oxidation would be limited by plans to add new tailings layers to the facility “generally within a week.” Tintina Opening Br. 41. Yet the record indicates that Tintina proposes to allow the tailings to weather in the facility for *up to 30 days* before being covered, leaving ample time for oxidation before fresh tailings are layered on top. AR-045803.<sup>56</sup>

In addition to the potential for tailings to oxidize before they are covered by fresh layers, the record demonstrates the potential for oxidation caused by oxygen penetrating below the surface, a concern DEQ summarily dismissed. At least one laboratory study of cemented tailings observed that cemented tailings may develop “preferential oxidation paths and persistent desiccation cracking,” which could allow oxygen to penetrate below the tailings surface and can be exacerbated by layering cemented tailings over wet tailings. AR-040808; *see* AR-040810 (discussing Ichrak et al. (2016), which found “drying of deeper layers of paste tailings appears to have been

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<sup>5</sup> Tintina must balance the need to allow tailings time to achieve final set with the need to frequently deposit new layers to prevent surface oxidation. As described above, other mines have balanced these competing needs by frequently depositing layers in thin lifts to allow for a quick set time. Increasing the cement and binders content of surface-disposed tailings to 4 percent would also enable the tailings to fully set in only 4 days, as opposed to the 28 days required for tailings containing only 2 percent binders. *See supra*, Pt. I.A.1.

<sup>6</sup> Tintina claims that that acid generation is minimized so long as tailings are covered with a fresh layer within 12-18 *months*. Tintina Reply Br. 9 (citing AR-046234). But Tintina quotes from a discussion of thickened past *backfill* at a mine in Kidd Creek, Ontario, not above-ground tailings disposal, where surface exposure to air is an issue.

inhibited by addition of a final cemented-paste layer” and “desiccation cracks appeared on the final cemented-paste layer 6 hours after placement”). Tintina responds that this study involved intermittent cemented layers rather than the continuous use of cement. While the distinction is true, it does not support Tintina's claim that its disposal methods are superior to those in the study. On the contrary, Tintina's consultant observed that the study in question “supports intermittent addition of binder at modest proportions over continuous addition of lower proportions of binder.” AR-040808.<sup>7</sup> In other words, Tintina's proposal is less protective, not more. In any event, the record does not contain analysis to show that tailings with as little as 0.5 percent binders would outperform pure paste tailings in terms of limiting cracking, let alone outperform the method employed by the study in question, which used an unknown proportion of cement.

Tintina demands “exceptional agency deference” to DEQ's evaluation of oxidation potential in the proposed tailings facility. Tintina Opening Br. 44. But this Court may only “defer to consistent, rational, and well-supported agency decision-making” and may not “automatically defer to the agency ‘without carefully reviewing the record and satisfying [itself] that the agency has made a reasoned decision.’” *Mont. Env'tl. Info. Ctr. v. Dep't of Env'tl. Quality*, 2019 MT 213, ¶ 26, 397 Mont. 161, 451 P.3d 493, *reh'g denied* (Nov. 19, 2019) (quoting *Clark Fork Coal.*, ¶ 21). The Court does not defer to agency action that conflicts with the record or “internally inconsistent analysis.”

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<sup>7</sup> While the study did not find oxidation within the cracks that formed in the tailings, it evaluated lower sulfide tailings than the tailings at the Black Butte Copper Mine. The percentage of acid-generating pyrite (a component of total sulfide) in the tailings studied in Deschamps *et al.* (2011) was just 9.5 percent, AR-035037, while Tintina's tailings likely exhibit “greater than 45%” pyrite, AR-002380 (Tintina response to public comment). The record evidence on the effects of exposing Black Butte Copper Mine tailings to air and water is from the weathering tests, which demonstrate that 2 percent tailings go acid within 2 weeks and lose structural stability in 28 days—and for 0.5 percent cement these processes would be even faster.

*Id.* (citation and quotation omitted). On this record, no exceptional deference is warranted. DEQ's conclusion that acid generation will not affect the stability of Tintina's tailings facility relied exclusively on its belief that the low hydraulic conductivity of cemented tailings would limit the ingress of oxygen below the surface layer of tailings, AR-045988-89—yet the record demonstrates the potential for oxidation pathways into lower layers of surface-disposed paste tailings, AR-040808. DEQ's conclusion that acid generation would not be possible was therefore arbitrary. *Mont. Wildlife Fed'n*, ¶ 43 (agency acts arbitrarily by failing to "examine the relevant data").

### **3. Liquefaction: Response to Earthquakes and Mine Blasting**

DEQ also failed to examine rationally the potential for tailings liquefaction, which "occurs when an otherwise solid material, usually partially saturated with water, loses strength and flows like a liquid" in response to a seismic event, mine blasting, or slope instability. AR-040802.

Third-party review of other non-cemented surface-paste tailings facilities concluded that "the most likely mechanism for failure would be liquefaction of the pasted tailings as a result of seismic activity." AR-040806 (Tintina consultant memorandum). Nevertheless, Tintina and DEQ did not consider the potential for liquefaction at Tintina's proposed facility because "[t]he tailings are cemented and considered a non-flowable mass." AR-046844 (Tailings Storage Facility Design Document) (concluding that assessments of liquefaction and loss of material strength "were not considered necessary to complete"); see AR-045949 (EIS) (stating that cemented tailings "preclude[] the risk of liquefaction or widespread release of tailings in response to impoundment failure or seismic events"). But as discussed, Tintina and DEQ's confidence in the conclusion of non-flowability is not supported by the record.



DEQ also failed to consider that Tintina's proposed tailings mixture itself may be inadequate to protect against liquefaction. Tintina's consultant acknowledged that "a study of the minimum proportion of cement required to prevent liquefaction of cemented-paste tailings backfill ... concluded that the minimum content must be greater than 1 [percent] to prevent liquefaction." AR-040802.<sup>8</sup> However, DEQ permitted the use of as little as 0.5 percent binder at Tintina's facility, AR-045949, thus failing to satisfy the parameters identified by Tintina's consultant as necessary to prevent liquefaction. DEQ's analysis never discussed this discrepancy or the implications of tailings liquefaction at Tintina's facility. At oral argument, counsel for DEQ dismissed this discrepancy as irrelevant to Tintina's aboveground facility because the study establishing the 1 percent cement threshold concerned tailings disposed underground, a distinction which DEQ's attorney deemed important because backfilled tailings "have to hold up the weight of the earth." Hearing Transcript 71:1-9. But nothing in the record suggests that weight-bearing tailings are more susceptible to liquefaction, and this statement thus represents an impermissible *post-hoc* rationalization that this Court may not consider.<sup>9</sup> Moreover, the statement overlooks that Tintina's above-ground facility will hold millions of tons of tailings, which will apply immense pressure to the tailings deep within the facility. If the weight placed upon tailings were a legitimate factor in determining liquefaction potential—and nothing in the record suggests that to be true—such considerations should apply equally to the tailings deep within Tintina's

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<sup>8</sup> Tintina incorrectly asserts this study observed that "only the upper portions of freshly placed backfill exhibit potential for liquefaction." Tintina Reply Br. 25 (quoting AR-040802). In fact, this quote references an entirely different study, the specifics of which (cement content, water content, etc.) are not discussed in the record. See AR-040802.

<sup>9</sup> Tintina's argument that backfilled tailings are more susceptible to liquefaction because they are deposited in ponded water, Tintina Reply Br. 25, is similarly *post hoc* and unsupported by the record.

aboveground facility. In short, the record does not support DEQ's assumption that the tailings in Tintina's facility will remain non-flowable—indeed, record evidence suggests they may instead be susceptible to “lose[] strength and flow[] like a liquid,” AR-040802.

Counsel for DEQ's additional *post-hoc* rationalization that “even if liquefaction were to occur in the cemented tailings, it doesn't matter” because the retaining dam would contain the flowable tailings, Hearing Transcript 166:20-24, is incompatible with DEQ's and Tintina's own record conclusions. As discussed, *supra*, Pt. I.A., Defendants' analysis concluded that the non-flowability of tailings within the proposed facility was a primary safety consideration and central to DEQ's determination that failure of the facility's retaining dam would not cause widespread environmental damage. DEQ's new argument that tailings liquefaction “doesn't matter” is thus incompatible with Defendants' prior conclusions and violates DEQ's statutory obligations to “ensure” the safety and stability of Tintina's proposed tailings facility, § 82-4-335(5)(f), MCA (MMRA), and “take a 'hard look' at the environmental impacts” associated with failure of Tintina's retaining dam, *Mont. Wildlife Fed'n*, ¶ 43 (articulating requirements under MEPA).

**4. Plaintiffs Adequately Raised Their Concerns About the Safety and Stability of Tintina's Tailings Facility.**

Defendants' reply briefs allege that Plaintiffs did not sufficiently raise certain issues related to the safety and stability of Tintina's tailings facility. At the outset, the Court notes that while MEPA requires litigants to raise their concerns in public comments first, § 75-1-201(6)(a)(ii), MCA, no such requirement is found in the MMRA and thus any failure by Plaintiffs to address these issues adequately in their comments could not impact their ability to bring safety and stability claims under that statute. In

any event, the Court finds that Plaintiffs sufficiently raised their concerns in public comments to satisfy MEPA.

The law does not require litigants to raise issues with complete clarity in the MEPA public comment process. As the Montana Supreme Court recently clarified, “so long as a claimant provides enough clarity such that the decision maker understands the issues raised for the agency to use its expertise to resolve the claim, the claimant will have met this burden.” *Vote Solar v. Montana Dep’t of Pub. Serv. Regul.*, 2020 MT 213A, ¶ 48, 401 Mont. 85, 473 P.3d 963, as amended on denial of reh’g (Oct. 6, 2020) (citing *Lands Council v. McNair*, 629 F.3d 1070, 1076 (9th Cir. 2010)). The Court adopted this principal from the Ninth Circuit Court of Appeals, which further explained that under MEPA’s federal analogue, NEPA, “a claimant need not raise an issue using precise legal formulations” to satisfy the exhaustion requirement. *Lands Council v. McNair*, 629 F.3d 1070, 1076 (9th Cir. 2010); see also *Native Ecosystems Council v. Dombeck*, 304 F.3d 886, 898-900 (9th Cir. 2002) (finding that plaintiffs adequately raised issue with the agency by presenting “much less refined legal argument in their administrative appeal”); c.f. *Tintina Reply 18* (stating that Plaintiffs “could have easily articulated th[eir] theor[ies] to DEQ in the *exact terms* they do now in their reply brief” (emphasis added)).

Here, Plaintiffs met this standard. The Defendants claim that Plaintiffs did not in their comments sufficiently raise issues about the potential for acid generation within the tailings stack or that premature deposition of fresh tailings may inhibit the dry time of lower layers. But the point that Plaintiffs make throughout their comments on the Draft EIS and their briefs is that Tintina and DEQ did not properly study (1) the correct

balance between allowing sufficient time for tailings to harden before new tailings are applied to achieve structural stability; or (2) the impact of covering up surfaces before they have time to weather to avoid significant oxidation and acid attack. As one example, Plaintiffs' comments state that depositing fresh paste after "one or two weeks is not likely enough time for the 2% cement paste tails to harden. Thus, adding new paste atop an unhardened layer will further extend the drying time of the underlayers. In that scenario, acid generation will likely outpace cement hardening, thus there will be even less buffering of acid by cured cement." AR-016921. Plaintiffs also commented that DEQ itself had raised an issue about the strength and setting time of low-cement content tailings, quoting DEQ's deficiency finding: "Cemented paste tailings research indicates that changing the type of binder... and the binder content ... can have significant effects on the cemented paste's short-term strength and setting time, long-term strength, and resistance to internal expansion and fracturing." AR-046256. And Plaintiffs noted that DEQ inexplicably did not carry this concern forward to its analysis in the Draft EIS. *Id.*

The questions raised in these comments about striking the proper balance between allowing the tailings to set while still adding fresh layers frequently enough to prevent acid generation is one of the central issues Tintina needed to confront in designing its tailings disposal plan. There seems little possibility that DEQ failed to understand this issue in Plaintiffs' comments, which were sufficiently raised for exhaustion purposes.

Defendants also suggest that Plaintiffs did not adequately raise the potential for liquefaction within the tailings facility. But Plaintiffs liquefaction point is simply that DEQ

did not adequately evaluate whether tailings with as little as 0.5 percent cement content will achieve a stable, non-flowable mass as Tintina claimed. Plaintiffs sufficiently raised this point as well, commenting that tailings with lower cement content “will be much less stable” than tailings with greater cement content, and again noting DEQ’s own concern that “changing the type of binder... and the binder content ... can have significant effects on the cemented paste’s short-term strength and setting time, long-term strength, and resistance to internal expansion and fracturing.” *Id.*

The Court therefore rejects Defendants’ arguments that Plaintiffs did not adequately raise these issues about the safety and stability of Tintina’s tailings facility, where such issues are central to Tintina’s and DEQ’s own analyses.

**B. DEQ Failed to Require Compliance with the MMRA’s Independent Panel Review Requirements**

DEQ’s permitting of the Black Butte Copper Mine also violated the MMRA’s independent review process required for Tintina’s tailings facility design. The MMRA requires that an independent panel of experts “shall review the design document, underlying analysis, and assumptions” associated with a proposed tailings storage facility prior to DEQ’s issuance of a draft mine operating permit. § 82-4-377(8), MCA. This independent review is intended to “yield[] an assurance that the design of the [tailings storage facility] is sound,” and is crucial to ensuring the safety of large tailings facilities. *Video Recording: Revise Metal Mine Laws: Hearing on SB 409 Before S. Natural Resources Comm.*, 2015 Leg., 64th Sess. 15:35:06-12 (MT 2015) (statement of bill proponent Dan Banghart, Golden Sunlight Mine). Because DEQ failed to require Tintina’s adherence to the MMRA’s extensive requirements for independent panel

review, §§ 82-4-376, 82-4-377, MCA, its decision to issue Tintina a mine operating permit violated the MMRA.

**1. The Independent Review Panel's Inadequate and Abbreviated Role**

The record demonstrates that Tintina failed to satisfy the MMRA's requirements for independent review of a complete design document for Tintina's proposed tailings facility. § 82-4-377(8), MCA. DEQ acknowledged in the record that Tintina had not produced a design document satisfying the MMRA's requirements, AR-047473 (August 2017 email), even after Tintina asserted the facility design was completed to feasibility level and its selected Independent panel would continue to be involved, AR-047463-65 (July 2017 letter from panel). Defendants attempt to backfill the independent review process to overcome this clear timeline, but their efforts are insufficient. The independent panel must issue its report *after* reviewing the full design document, not before. § 82-4-377(8), MCA. And further, the record indicates that the panel did not review important components of the design document either before or after its report. These key omissions violate the MMRA.

The Court first rejects Tintina's suggestion that Plaintiffs' only claim related to the MMRA's independent review panel requirements would be against the panel itself, where Tintina is obligated as a mine operating permit applicant to submit an application "which must contain" statutorily required information and data, § 82-4-335(5), MCA, and DEQ "shall review all applications for operating permits for completeness and compliance," § 82-4-337(1)(a), MCA, including "the panel report pursuant to 82-4-377," § 82-4-337(1)(d)(iii), MCA. Thus, while Tintina would pin any shortcomings in the independent review process on the panel itself, Tintina and DEQ have a separate

obligation to comply with the MMRA's application requirements and cannot insulate themselves from this responsibility.

Defendants argue that a letter written by the independent panel dated July 28, 2017, satisfies the review requirements of § 82-4-377, MCA. Tintina Opening Br. 18; DEQ Opening Br. 20. That letter is insufficient, however, because the design document reviewed by the panel on that date lacked basic information and analysis that was both statutorily required and essential to understanding the safety and stability of the proposed facility. § 82-4-337, MCA. On August 11, 2017, two weeks after Tintina and DEQ claim the independent review panel issued its report, DEQ noted that the design document was still incomplete. AR-047473-75. Among other things, DEQ noted that Tintina had not yet finished its Dam Breach Risk Assessment or probabilistic and deterministic seismic evaluation, both essential statutory elements of the design document, § 82-4-376(2)(m)-(n), MCA, and crucial to determining the anticipated safety and stability of the proposed facility. AR-047474 (“[Tintina’s contractor] indicated that these evaluations will be finished soon and distributed for review.”). DEQ also noted that, although Tintina’s application materials referenced a “Construction Management Plan,” required by § 82-4-376(2)(s), MCA, that plan was nowhere to be found. AR-047475. DEQ identified myriad other required elements missing from the design document, including descriptions of the chemical and physical properties of materials and process solutions to be stored in the tailings facility, § 82-4-376(2)(o), MCA, though DEQ indicated much of this material could be found in other application documents. AR-047473-74.

While Defendants in oral argument diverge in their accounts of how the independent review process played out, the *record evidence* remains that the independent review panel did not review a complete design document prior to certifying its review to the agency. AR-047474-75. Further, while Defendants point to emails regarding an August 11, 2017, conference call with the panelists, at best, these emails confirm that Tintina reviewed a dam breach risk assessment during that call, which occurred after the panel's certification. Supp\_AR-1280. Not only was such a review untimely, but nothing in the cited emails suggests that the independent review panel reviewed the probabilistic and deterministic seismic evaluation required for the design document. § 82-4-376(m), MCA.

Moreover, the administrative record shows that the independent review panel never reviewed—because Tintina apparently never created—the Construction Management Plan for Tintina's proposed facility. The MMRA requires that every design document contain a “construction management plan that includes, at a minimum, parameters and levels of acceptability to be monitored during construction for quality control and quality assurance purposes,” and details “[t]he frequency of sampling, the amount of oversight, the qualifications of the oversight personnel, and the role of the panel during and after construction.” § 82-4-376(s), MCA. However, the final design document itself states that the Construction Management Plan would not be developed until “the detailed design phase” for the facility, AR-046846, which the independent review panel indicated would likely begin “more than one year” after the date the panel purportedly completed its design document review, AR-047465. Defendants do not rebut this point. See Tintina Reply Br. 30 (arguing that the panel reviewed the dam



breach and site-specific seismic analysis but failing to respond to Plaintiffs' assertion regarding the construction management plan, Pls' Resp. Br. 13); DEQ Reply Br. 25 (asserting broadly that "it is undisputed that an independent review panel ... reviewed the design of the CTF"). By failing to provide the independent panel with a design document complete with all the statutorily required information and plan elements, Tintina ensured that panel could not complete its review. Therefore, Tintina—and DEQ for failing to require Tintina's compliance with the MMRA's application requirements—violated the MMRA's tailings storage facility design review requirements. See § 82-4-377(8), MCA (requiring that "[t]he panel shall review the design document, underlying analysis, and assumptions"); see also § 82-4-377(7), MCA (requiring permit applicant to "provide each panel member with ... the design document"); § 82-4-376(1), (2)(s), MCA (requiring permit applicant "to submit to the department a design document," which "must contain" a "construction management plan"); § 82-4-337(1)(a), MCA (requiring that DEQ "shall review all applications for operating permits for completeness and compliance").

Despite these deficiencies in Tintina's tailings facility review process, Tintina claims that DEQ—the agency designated by the Legislature with responsibility for regulating hard rock mines—nevertheless "ensure[d]" that Tintina's facility design would be "safe and stable" by merely "receiving" Tintina's facility design documents. Tintina Opening Br. 28-30. This argument fails, however, because DEQ must review all mine operating permit applications "for completeness and *compliance* with the requirements of [the MMRA] and rules adopted pursuant to [the MMRA]." § 82-4-337(1)(a), MCA (emphasis added). *Only* "when an application is complete and compliant," § 82-4-

337(1)(e), MCA, must DEQ “verify the receipt of the certified [tailings facility] design document” and “panel report.” § 82-4-337(1)(e)(iii), MCA. In other words, DEQ is not a file clerk but a regulator required to “note all deficiency issues” associated with an application and ascertain “compliance.” § 82-4-337(1)(a), MCA. Consistent with DEQ’s statutorily assigned role, no party argues that DEQ must rubber stamp application materials such as reclamation and operating plans although, like the tailings facility design document and panel report, the MMRA states only that an applicant must “submit” this information as part of its permit application. Compare § 82-4-335(5)(c), (j), MCA (requirements for reclamation and operating plans), with § 82-4-335(5)(f), MCA (requirement for submission of tailings facility design document and panel report). Indeed, DEQ engaged in a series of deficiency reviews with respect to Tintina’s other application materials, which identified multiple areas where Tintina’s analysis was insufficient, AR-086481-624 (DEQ’s first, second, and third deficiency reviews)—and Tintina responded with additional analysis or modifications to the project. Tintina offers no compelling reason why the statute should be read differently with respect to tailings facility review. See Tintina Opening Br. 28-30.<sup>10</sup>

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<sup>10</sup> DEQ’s application compliance review refused to find that Tintina’s tailings facility review process complied with the MMRA’s requirements based on the agency’s erroneous conclusion that “the proposed impoundment does not meet the definition of ‘tailings storage facility’ set forth in Section 82-4-30[3](34).” AR-086606. DEQ incorrectly concluded that it did “not have statutory regulatory authority” and thus “[t]he information provided by the Impoundment Review Panel and Engineer of Record was not needed for the compliance review.” *Id.* In so concluding, DEQ abused its discretion. See *Clark Fork Coal.*, ¶ 43 (“An agency that has authority to act but fails to exercise that authority based upon a false belief that there is no such authority abuses its discretion.” (citation and quotation omitted)).

For all these reasons, Defendants violated the MMRA's independent panel review process.<sup>11</sup>

**2. DEQ's Unlawful Exclusion of Tintina's Proposed Facility from the Definition of "Tailings Storage Facility"**

Despite arguing that Tintina complied with the independent panel review requirements for tailings storage facilities—which it did not—Defendants continue to maintain that Tintina's proposed tailings impoundment facility is not a large "tailings storage facility" under § 82-4-303(34), MCA, based on their assertion that it is designed to store 50 acre-feet or less of free water. DEQ Opening Br. 22-25; Tintina Opening Br. 28. Defendants are incorrect.

Defendants' position does not comport with the statutory language. DEQ begins by acknowledging that large "tailings storage facilit[ies]" include tailings facilities that store more than 50 acre-feet of "free water or process solution." DEQ Opening Br. 23; *see also* § 82-4-303(34), MCA. DEQ further concedes that Tintina's facility is "designed to provide capacity for temporary storage of 248 acre-feet of stormwater" at any given time. DEQ Opening Br. 23. However, DEQ equates the term "free water or process solution" with the Legislature's separate reference elsewhere in the statute to "maximum operating water or solution volume," which, DEQ argues, excludes stormwater. *Id.* at 24. However, the MMRA's definition of "tailings storage facility" explicitly refers to "*free water or process solution*" not "*operating water or solution volume.*" § 82-4-303(34), MCA. Because courts may not construe statutes by rewriting them, this Court rejects

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<sup>11</sup> This review process also fails to satisfy DEQ's separate obligation under MEPA to take a "hard look" at the proposed mine's potential environmental impacts for the reasons stated *supra*, Pt. I.A. To satisfy this requirement, DEQ must evaluate all relevant factors, and cannot overlook pertinent data that came to light only after the independent panel submitted its report to DEQ. *See Clark Fork Coal*, ¶ 47 ("hard look" standard requires the agency to "consider all pertinent data").

DEQ's statutory interpretation. See *State v. Cooksey*, 2012 MT 226, ¶ 69, 366 Mont. 346, 286 P.3d 1174 (Nelson, J., concurring) (In statutory construction, courts do not "rewrite a statute[] by ignoring clear and unambiguous language").

The Court also rejects DEQ's argument that applying the clear statutory language would "be absurd" because it would "require classification of Tintina's impoundment as a 'tailings storage facility' based on its design to retain the probable maximum flood event ... in simultaneous combination with water derived from melting of a 1-in-100-year snowpack event." DEQ Opening Br. 24-25. DEQ's characterization omits that Tintina's facility will be called into action during a wide range of flooding events "up to and including" the probable maximum flood event. AR-070655 (MOP Application). As the tailings facility can hold up to 248 acre-feet of stormwater during a maximum flood event, significantly smaller storm events will also push the facility above the 50-acre-foot threshold. DEQ's attempt to dismiss the free-water content of Tintina's tailings facility therefore fails.

Further, Tintina itself classified its proposed tailings facility as a "high hazard" dam under the Dam Safety Act, based in part on the facility's "capacity exceeding 60,000 m<sup>3</sup> [50 acre-feet]" including "the potential volume of water stored." AR-070599. There is no basis for Defendants' suggestion that Tintina's facility is "high hazard" under the Dam Safety Act but low hazard under the exact same standard in the MMRA.

The legislative history further supports Plaintiffs' argument, because it shows that the 50 acre-feet exclusion threshold was based on a determination that facilities holding less than 50 acre-feet were considered small, "low-hazard facilit[ies]." *Audio Recording: Revise Metal Mine Laws: Hearing on SB 409 Before the H. Natural Resources Comm.*,

2015 Leg., 64th Sess. 18:21:04-18:22:07 (MT 2015) (statement of Sen. Chas Vincent, bill sponsor); *see also id.* (“We are not trying to regulate ponds.”). As Plaintiffs noted in their opening brief, Pls.’ Opening Br. 22, Tintina’s proposed facility is neither small—it will span 72 acres and hold approximately 7.1 million tons of toxic waste—nor low-hazard, as exemplified by Tintina’s classification of the facility as “high hazard” under the Dam Safety Act. AR-070599. And, of course, it is designed to hold up to 248 acre-feet of stormwater at any given time. AR-045789 (tailings facility designed to hold 400,000 cubic yards of stormwater); *see* Pls.’ Opening Br. 21, n.11 (converting cubic yards to acre-feet).

In short, Defendants offer no compelling justification for DEQ’s decision to exclude Tintina’s tailings facility from the MMRA’s independent review panel requirements.

**3. Defendants’ Assertion that Tintina Need Not Comply with the MMRA’s Independent Review Requirements Would Violate Montana’s Constitution**

The Court need not resolve the constitutionality of the MMRA, because its statutory construction necessarily moots this issue. Plaintiffs argue that, by excluding Tintina’s tailings facility from the MMRA’s protective requirements for “tailings storage facilit[ies],” DEQ created an arbitrary loophole in the statutory scheme—irreconcilable with considerations of environmental harm—whereby a tailings facility designed to hold millions of tons of acid-generating tailings in perpetuity is not required to undergo the rigorous design standards and approval processes required by the MMRA. DEQ’s interpretation would allow Tintina to construct a massive tailings facility adjacent to Sheep Creek, a major Smith River tributary, without complying with the statutory

protections designed to protect Montanans' right against avoidable environmental harm. Where, as here, State action "arbitrarily excludes certain 'activities' from ... review without regard to the nature" of the associated environmental harms, such action violates the State's constitutional obligation to protect a clean and healthful environment. *MEIC*, ¶ 80 (citing Mont. Const. art. II, § 3; art. IX, § 1).

The Court finds that the constitutional dilemma posed by Plaintiffs' weighty argument is an additional reason to find that DEQ's conclusion that Tintina's tailings facility is exempted from the protective measures found in §§ 82-4-376 and 82-4-377, MCA, is erroneous. See *Park Cty. Envtl. Council*, ¶ 54 ("[C]ourts should avoid constitutional issues whenever possible.") (quoting *Sunburst Sch. Dist. No. 2 v. Texaco, Inc.*, 2007 MT 183, ¶ 62, 338 Mont. 259, 165 P.3d 1079). "Under the constitutional-avoidance canon, when statutory language is susceptible of multiple interpretations, a court may shun an interpretation that raises serious constitutional doubts and instead may adopt an alternative that avoids those problems." *Jennings v. Rodriguez*, 138 S. Ct. 830, 836, 200 L. Ed. 2d 122 (2018).

## **II. DEQ VIOLATED MEPA BY FAILING TO RATIONALLY EVALUATE ENVIRONMENTAL HARM DUE TO THE MINE'S NITROGEN DISCHARGES TO SHEEP CREEK**

The Court also finds that DEQ violated MEPA in its approach to nitrogen pollution from the proposed mine. This issue arises from Tintina's proposed handling of groundwater pumped from its underground mine workings. Tintina proposes to transport most of this groundwater from the mine portal to a water treatment plant, where it would undergo reverse osmosis treatment to reduce concentrations of certain pollutants, including dissolved metals such as aluminum, arsenic, and thallium. AR-045884-86, AR-045790. While some of that groundwater would be used in mine

operations, most of the water would be discharged to an underground infiltration gallery ("UIG"), which consists of excavated trenches, after which it would travel through the alluvial aquifer (shallow sand and gravel deposits along Sheep Creek) before discharging to Sheep Creek at an average rate of 398 gallons per minute. AR-045790. DEQ determined, however, that the water treatment process is insufficient to meet a seasonal effluent limit for nitrogen in Sheep Creek of 0.09 mg/L, where, after treatment, the pumped groundwater still exhibits nitrogen levels of up to 0.57 mg/L, compared to the allowable limit of 0.3. AR-045908. The seasonal nitrogen effluent limit for Sheep Creek is designed to reduce the growth of nuisance algae, which can deplete oxygen in surface water and thus harm or kill resident fish. *Id.* (Final EIS stating that seasonal nitrogen limit "would be in effect every year between July 1 and September 30 to prevent nuisance algal growth in surface waters") (emphasis added); see AR-046183 (discussing harm to fish and aquatic life from algae blooms in Sheep Creek); AR-045964 (algae growth "may be exacerbated by dynamic nutrient concentrations (total nitrogen and phosphorous)" and the Smith River is listed on the DEQ's 303(d) list of Impaired streams, with nuisance algae growth already having been observed in the Smith River). Thus, during July through September when the seasonal nitrogen effluent limit is in effect, Tintina would impound the groundwater in a treated water storage pond and not discharge it to the UIG until after September 30 each year. *Id.* Because of this seasonal impoundment, DEQ in the Final EIS concluded that Tintina's proposed water handling would not cause excessive nitrogen pollution in Sheep Creek.

Plaintiffs argue that DEQ's analysis overlooked or insufficiently analyzed an important factor, which is that water discharged to the UIG "might take up to a few

months" to reach Sheep Creek. AR-046378; see also AR-041375 (Tintina's discharge permit application stating that "[d]ischarge of treated effluent in the alluvial system may have transit times up to hundreds of days prior to discharging to Sheep Creek and/or Coon Creek"). Thus, Tintina's discharges to the UIG of water with nitrogen concentrations of up to 0.57 mg/L *before* July 1 each year may enter Sheep Creek after July 1, when the seasonal effluent limit for nitrogen of 0.09 mg/L is in effect. Indeed, DEQ conceded that "the water released via the UIGs to the environment before July 1 might occasionally carry nitrogen at concentrations above the non-degradation effluent limits." AR-046378. As a result, Plaintiffs argue that Tintina's discharges may contribute to nuisance algal growth that the standard is designed to prevent.

The Court agrees. Where DEQ found that preventing discharges to Sheep Creek July through September each year is necessary to prevent excessive growth of nuisance algae, and the record demonstrates that Tintina's discharges to the UIG before July 1 may enter Sheep Creek July through September, it appears that DEQ failed to "examine the relevant data and articulate a satisfactory explanation" for its conclusion. *Clark Fork Coal.*, ¶ 47.

Defendants resist this conclusion, but their defenses are not supported by the record. Tintina has argued that the seasonal nitrogen effluent limit of 0.09 mg/L is not the appropriate threshold for harm, and instead, harm to Sheep Creek may be avoided if the generally applicable 0.30 mg/L water quality standard for nitrogen is met in the creek. As noted, however, DEQ in the Final EIS stated that Tintina's effluent must meet the 0.09 mg/L limit "to prevent nuisance algal growth in surface waters." AR-045908. While Tintina now argues this is not the correct standard, as Tintina's counsel conceded



at oral argument, the company “lost that disagreement” with DEQ. Hearing Transcript 121:11-13. Not only did DEQ determine that 0.09 mg/L the relevant standard for ascertaining potential harm to Sheep Creek from Tintina’s nitrogen pollution, DEQ stated in the Final EIS that “[a]ny elevation in nitrate [a component of total nitrogen] in surface waters in the Project area may cause more blooms of nuisance algae, which can reduce water quality for other aquatic organisms, and may adversely affect fish or other aquatic life.” AR-046183. Tintina may not now advance a theory that is divorced from DEQ’s own findings because “an agency’s action must be upheld, if at all, on the basis articulated by the agency itself.” *Park County Env’tl. Council*, ¶ 36 (quoting *Motor Vehicle Mfrs. Ass’n*, 463 U.S. at 50).

While counsel for the parties disagreed at oral argument regarding the concentration of nitrogen that would enter Sheep Creek after it travels through the alluvial aquifer, the record is clear that it would likely exceed the relevant limit. According to Tintina’s conceptual model that evaluated the mixing of Tintina’s discharges with groundwater, “the concentration of groundwater water discharging to Sheep Creek will be approximately 0.46 mg/L.” AR-032792. Thus, nitrogen in Tintina’s discharges would be more than *five times* the level DEQ set to prevent nuisance algal growth. Tintina further suggests that nitrogen concentrations in Sheep Creek, not in Tintina’s discharges, is the relevant data point for ascertaining harm. DEQ already rejected this approach on grounds that the 0.09 mg/L *effluent limit* is necessary to maintain water quality in the creek. AR-045963. Comparing this limit to the quality of the receiving water is apples-to-oranges. However, even using this flawed metric does not support Tintina’s argument where even after Tintina’s discharges are diluted within

Sheep Creek, the total nitrogen concentration in the creek is predicted to be 0.12 mg/L, more than the 0.09 mg/L limit. AR-032793, AR-045963.<sup>12</sup>

Defendants further argue that nitrogen will attenuate in the alluvial sediments on its way to Sheep Creek. The only reference to this issue in the Final EIS is DEQ's response to public comments that "nitrogen dissolved in groundwater would be subject to attenuation (while filtrating through alluvial sands and wetland areas; this phenomenon is documented in literature), thereby lowering nitrogen levels before reaching the waters of Sheep Creek." AR-046378. The record lacks any analysis to show that, under the geological and chemical circumstances present in the Sheep Creek alluvium, attenuation would reduce nitrogen concentrations in Tintina's discharges from 0.46 mg/L (the concentration after mixing with groundwater) down to 0.09 mg/L or less as required to meet the seasonal effluent limitation. Such analysis is particularly essential on this issue, where Tintina's discussion of the attenuation process indicates that that "[n]itrate *can* be in-situ converted by bacterial action, but requires seeding and careful management to facilitate conversion," AR-032794 (emphasis added), and no such seeding or careful management is proposed in this case. Defendants' reliance on attenuation without any supporting analysis amounts to mere speculation, which cannot support DEQ's findings in the Final EIS.

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<sup>12</sup> Tintina further argues in its reply brief that the Montana Supreme Court in *Park County Env'tl. Council* established water quality standards as providing the appropriate harm threshold under MEPA as a matter of law. This is incorrect. In the environmental analysis challenged in that case, DEQ had determined water quality would be protected if discharges met the water quality standards, and the issue raised by Plaintiffs was whether DEQ rationally found that those standards would actually be met. *Park County Env'tl. Council* ¶ 39. Here, DEQ established a different harm threshold for nitrogen discharges to Sheep Creek—the seasonal effluent limit of 0.09 mg/L—and the record demonstrates that such a limit would not be met by Tintina's discharges to Sheep Creek.

For these reasons, the Court finds that DEQ failed to “examine the relevant data and articulate a satisfactory explanation” for its finding that Tintina’s effluent discharges to the UIG will not harm water quality and aquatic life in Sheep Creek. *Clark Fork Coal.*, ¶ 47. Accordingly, DEQ did not satisfy its MEPA obligation to take a “hard look” at the environmental impacts of its permitting decision for the Black Butte mine. *Id.*

### **III. DEQ VIOLATED MEPA BY FAILING TO RATIONALLY CONSIDER ALTERNATIVES TO THE PROPOSED ACTION**

DEQ also violated MEPA by dismissing without adequate analysis potential changes to Tintina’s plan for tailings disposal that were identified in expert comments on the Draft EIS and could ameliorate some of the project’s most troubling environmental impacts. MEPA requires DEQ to analyze “different parameters ... that would accomplish the same objectives as those included in the proposed action by the applicant.” § 75-1-220(1), MCA; *see also* ARM 17.4.603(2)(a) (defining “alternative” to include “an alternate approach or course of action that would appreciably accomplish the same objectives or results as the proposed action”). “[R]easonable alternatives” under MEPA “may or may not be within the jurisdiction of the agency to implement,” but nonetheless must be considered. ARM 17.4.617(5). MEPA’s alternatives requirement ensures that agencies consider different ways of accomplishing project goals while lessening impacts. *See* § 75-1-201(1)(b)(v), MCA. “The existence of reasonable but unexamined alternatives renders an EIS inadequate.” *Ilio’ulaokalani Coal. v. Rumsfeld*, 464 F.3d 1083, 1095 (9th Cir. 2006) (quotation omitted).

DEQ dismissed, without rational analysis, alternatives that would require Tintina to either remove acid-generating pyrite from the tailings before disposing them in the above-ground tailings facility or increase the binders content (and therefore the stability)

of the tailings. DEQ dismissed these alternatives from in-depth consideration because, according to DEQ, they would provide no net environmental benefit compared to the proposed action and were allegedly infeasible. AR-045803-04; AR-046218-19. DEQ's conclusions are unsupported by the record, and DEQ's failure to rationally consider these reasonable alternatives to the proposed project thus violated MEPA. See § 75-1-201(1)(b)(v), MCA; ARM 17.4.617(5); *Clark Fork Coal.*, ¶ 47.

As an initial matter, these alternative parameters fall squarely within DEQ's required analysis under MEPA. While Tintina invokes the Montana Supreme Court's decision in *Park County Environmental Council* to argue the contrary, Tintina Opening Br. 48, 50, that case is inapposite. *Park County Environmental Council* contemplated whether DEQ must consider alternatives that would "fundamentally alter[] the project itself," Tintina Opening Br. 48, including "scal[ing] down" the scope of proposed mine exploration activity, *id.* (quoting *Park Cty. Env'tl. Council*, ¶ 46). Here, the alternatives at issue would not reduce the Black Butte Copper Mine's ore extraction or otherwise fundamentally alter the scope of Tintina's proposed mining activities. Rather, the alternatives in this case concern safe waste disposal and aim to identify the most protective tailings impoundment design to reduce the risk that toxic mine tailings will harm the water quality and fish habitat in Sheep Creek and the Smith River. DEQ thus had both the authority and the obligation to consider tailings-disposal alternatives for the project. ARM 17.4.617(5).

**A. DEQ Irrationally Dismissed a Depyritization Alternative**

DEQ irrationally dismissed a depyritization alternative to Tintina's proposed method of tailings disposal. Depyritization would require Tintina to remove the acid-generating "pyrite" from mine tailings prior to disposal, thus creating two separate waste

streams. AR-045804-05. The pyrite waste could then be stored underground, rather than the above-ground tailings facility where it could destabilize and enter surface waters. Against the recommendation of its consultant, DEQ dismissed this method from meaningful consideration, alleging without analysis that it was not technically feasible and would not offer an environmental benefit. *Id.*

In a 2017 memorandum, DEQ's consultant found "clear environmental advantages to removing pyrite from tailings," AR-046590, and "recommended that more consideration be given to technical feasibility and the pros/cons of various tailings management alternatives rather than cost feasibility," AR-046595. Nothing in the record suggests DEQ heeded this recommendation. Instead, DEQ's short discussion of depyritization in the EIS cited exclusively to the 2017 memorandum and dismissed this alternative based on the same unanswered question of technical feasibility that had prompted DEQ's consultant to recommend further consideration—namely that additional excavation "may" be required to store pyrite waste underground. AR-045804-05 (EIS); *see also* 046218-19 (EIS response to public comment) (citing AR-045804-05 and consultant memorandum). In addition to reraising this outstanding question of technical feasibility, Defendants argue that depyritization offers no net environmental benefit because it requires increased use of chemicals and additional infrastructure. Tintina Opening Br. 53 (citing AR-045804 (EIS)). However, DEQ's consultant recognized the same tradeoffs and nevertheless found "clear environmental advantages to removing pyrite from tailings." AR-046590. Defendants' arguments on technical feasibility and environmental benefits thus identify no new record analysis or information, and DEQ's consultants' memorandum recommending further consideration

of the depyritization alternative thus continues to stand as DEQ's only analysis in the record on this alternative.

As a result, when dismissing depyritization from in-depth consideration as a reasonable alternative under MEPA, DEQ failed to articulate "a rational connection between the facts found and the choice made," and thus violated its obligations under MEPA. *Clark Fork Coal.*, ¶ 47 (citing *Motor Vehicle Mfrs. Ass'n*, 463 U.S. at 43); see § 75-1-201(1)(b)(v), MCA (MEPA alternatives requirement).

**B. DEQ Arbitrarily Dismissed the Alternative of Increasing the Binders Content of the Tailings Mixture**

DEQ also improperly dismissed from in-depth consideration an alternative that would enhance the structural stability of the cemented tailings by increasing the cement and binder content of the tailings mixture from the 0.5 to 2 percent range proposed by Tintina to 4 percent. AR-045803. As with depyritization, DEQ dismissed this alternative based on an assertion that increasing the binders content in the tailings would provide no environmental benefits and unexamined concerns over technical feasibility.

DEQ failed to rationally consider the environmental advantages explained in expert comments and documented in the record. As discussed, DEQ's analysis of Tintina's plan to add binders to the tailings did not account for the fact that Tintina would continuously layer new tailings into the facility over layers that had not fully set, which may diminish the stability of the tailings mass, enhance oxidation potential, and render the tailings susceptible to liquefaction. See *supra*, Pt. I.A. Expert comments on the Draft EIS suggested the logical alternative of increasing the binders content of the tailings, thereby reducing their set time. AR-046335 (expert comments on Draft EIS) ("Consideration should be given to adding 4 [percent] cement binder to surface-

disposed tailings to allow them to set up more quickly.”). Increasing the binders content of the tailings mixture to 4 percent would result in each new layer setting in only 4 days (rather than the 28 days for 2 percent binders), AR-085773, thereby increasing the likelihood that each new layer of tailings added to the facility would be added to tailings that have fully set. However, just as DEQ failed to consider the consequences of layering over wet tailings, DEQ failed to consider benefits associated with the rapid setting time of a 4 percent binders mixture. See AR-045803-04 (final EIS discussion of 4 percent cemented tailings alternative).

In addition to overlooking the environmental benefits of increasing the binders content, Defendants attack the technical feasibility of this alternative, arguing that increasing the binders content of tailings would strain the high-capacity pumps needed to move the cemented tailings to the surface facility. Tintina Opening Br. 51. The record supports Defendants' claim that binders content is an important consideration with respect to pumpability, but it contains no analysis to suggest that a tailings mixture containing 4 percent binders would cause these problems. Instead, Defendants base their claim on more generic statements regarding binders content from DEQ's consultant. See, e.g., AR-046572 (“[l]ow to moderate cement contents are a primary means to achieve pumpability.”); see also AR-045803 (EIS stating “if too much cement and binder were added, it would not be possible to pump the tailings through a pipeline”). By themselves, these statements offer no insight into whether the 4 percent cemented tailings would cause these technical disruptions. Indeed, as Plaintiffs point out, concerns over pumpability are also important for tailings disposed underground as backfill, yet DEQ permitted Tintina to dispose of a tailings mixture including 4 percent

binders as backfill. Pls.' Reply Br. 36-37. And while underground and aboveground disposal is not an apples-to-apples comparison, the fact remains that DEQ failed to evaluate whether a 4 percent binders mixture would prevent Tintina from pumping tailings to the aboveground tailings storage facility.

Defendants also assert that because 4 percent binder "hardens quickly," it is "more difficult to spread the paste evenly on the surface and slope the paste." Tintina Opening Br. 50. However, DEQ's discussion of slope in the EIS does not focus on binder content, and instead emphasizes that achieving "a uniform, sloping tailings beach" requires "[a]ctive" tailings management, including rotating deposition points around the tailings facility perimeter and, in winter months, disposing of tailings close to the water reclamation point to limit freezing. *Id.* Again, Defendants identify no record analysis indicating that the 4 percent binders mixture would be incompatible with achieving the desired slope within the aboveground facility.

For these reasons, DEQ's rejection of this alternative that could reduce potential environmental harm from the disposal of Tintina's toxic mine tailings was arbitrary and failed to satisfy DEQ's obligation to consider "reasonable alternatives to the proposed action." ARM 17.4.617(5); see *Clark Fork Coal.*, ¶ 47.

#### **ORDER**

For the foregoing reasons, the Court orders that:

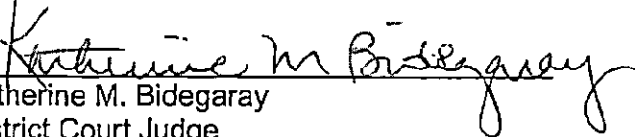
1. Plaintiffs' motion for summary judgment on their claims that DEQ violated the MMRA and MEPA by arbitrarily and unlawfully approving Tintina's application to construct and operate the Black Butte Copper Mine is GRANTED;
2. Defendants' cross-motions for summary judgment are DENIED;



3. Because the Court grants Plaintiffs' motion for summary judgment, Tintina's motion in the alternative for evidentiary proceedings is denied as moot;

4. And, finding that Plaintiffs are entitled to relief for DEQ's violations of the MMRA and MEPA, the parties are directed to file simultaneous briefs regarding the appropriate remedy within 45 days of this Order.

DATED this 8<sup>th</sup> day of April, 2022.

  
Katherine M. Bidegaray  
District Court Judge