WESTERN RESOURCE
ADVOCATES

Walt Baker, Executive Secretary
Utah Water Quality Board
P.O. Box 144870
Salt Lake City, UT 84114-4870

February 19, 2010

RE: Draft Modification of Great Salt Lake Minerals UPDES #UT0000647 permit

Dear Walt:

Thank you for the opportunity to provide comments on the draft UPDES permit modification related to the discharges of the evaporation pond flushing operation at the Great Salt Lake Minerals (Mining Company) facility, and on the proposed Consent Decree that purport to address the fact that the company has been unlawfully discharging pollutants from those operations without a permit for many years.

These comments are submitted on behalf of FRIENDS of Great Salt Lake, Utah Waterfowl Association, Western Wildlife Conservancy, League of Women Voters of Utah, League of Women Voters of Salt Lake, National Audubon, Bridgerland Audubon, Utah Airboat Association, the Utah Chapter of the Sierra Club, and the Utah Physicians for a Healthy Environment (Collectively FRIENDS). As you know, these organizations are particularly interested in this permit because their members extensively use and enjoy Great Salt Lake, and especially Bear River Bay, for, among other purposes, wildlife viewing, boating, hunting, photography, scientific study, and solitude.

Concern over the effects of the Mining Company's past, unpermitted discharges led Western Resource Advocates, on behalf of FRIENDS of Great Salt Lake, Utah Airboat Association, Utah Chapter of the Sierra Club, League of Women Voters of Utah, and League of Women Voters of Salt Lake, to serve a 60-day notice of intent to sue Mining Company that led directly to the submission of the pending permit application and proposed Consent Decree. Therefore, those organizations have a special interest in ensuring that any permit for the proposed discharges complies fully with applicable federal and state requirements, and protects the affected waters and associated resources properly.

Introduction

Given the many years in which Mining Company has been discharging without the required permit, and the fact that the Environmental Protection Agency (EPA), the U.S. Fish and Wildlife Service (FWS), the Utah Division of Wildlife Resources (DWR) and other agencies have expressed concerns about the potential impacts of these discharges (detailed below), this permit review should be conducted with particular care. Instead, Mining Company submitted a

hastily-prepared and incomplete permit application, on the basis of which DWQ released an incomplete and legally insufficient Draft Permit in a matter of weeks.

Mining Company filed the initial permit application on December 3, 2009, 13 days after it received the 60-day notice of intent to sue. That application did not include estimated effluent flows. In its December 7th cover letter, Mining Company stated: "Sampling required by this permit is underway and results will be forwarded to your attention as soon as possible." In spite of this shortfall, the draft Fact Sheet and Statement of Basis is dated January 11, 2010, the day before the Mining Company submitted a revised application.[1] However, while the January 12th updated application of the application included flow estimates, as explained below, it still did not include quantitative data properly characterizing its discharge. Mining Company does not explain why the promised effluent sampling was not provided. Nevertheless, three days later, on January 15, 2010, DWQ issued the Draft Notice, Permit, and Consent Decree subject to this public comment period.

The publication of a Draft Permit without this basic information rendered it impossible for DWQ to review the application properly, and denies members of the public a fair opportunity to comment on the permit. As a result, the Draft Permit runs afoul of state and federal law and regulations. In your letter to Rob Dubuc dated February 10, 2010, you refer to water quality data that purportedly supports this application. That information was collected as part of the National Environmental Policy Act (NEPA) process associated with the Mining Company's pending expansion proposals. It was not submitted as part of the UPDES application process, nor was it certified as accurate as required by EPA and state regulations. There is no way for the public to know whether those data were collected and analyzed pursuant to methods approved under EPA's Part 136. Moreover, the data do not address nearly all of the necessary pollutant parameters. Other omissions and deficiencies in the application are specified below.

In addition, given the incomplete status of the permit application and the serious legal deficiencies in the Draft Permit specified below, the proposed Consent Decree issued concurrently with the Draft Permit does not and cannot properly evaluate or address the Mining Company's longstanding violations of federal and state law. Therefore, the proposed Consent Decree should also be withdrawn pending a complete and sufficient analysis of the Mining Company's past violations and their impacts on Bear River Bay and Great Salt Lake.

I. THE PERMIT APPLICATION IS INCOMPLETE IN A NUMBER OF CRITICAL RESPECTS, AND A DRAFT PERMIT SHOULD NOT HAVE BEEN ISSUED.

Under both Utah and federal regulations, a draft permit may not be issued until the permit application is complete. 40 C.F.R. § 124.3(c). Utah Administrative Rule R317-8-3.1(5) (2009)[2]

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[1] The Draft Permit itself is undated, but it is most reasonable to assume that it was also completed before Mining Company submitted its revised application.

[2] These comments cite to applicable Utah water quality regulations, but also to Environmental Protection Agency (EPA) regulations designated as "applicable to State programs" and that are therefore binding on the Utah Department of Environmental Quality, Division of Water Quality (DWQ) as a condition of the State of Utah's NPDES program.

states that "the Executive Secretary will not issue a UPDES permit before receiving a complete application," and that an application is "complete when the Director (EPA) or Executive Secretary (Utah) receives an application with any supplemental information which is completed to his or her satisfaction." *See also* 40 C.F.R. § 124.3 (2000). Further, 40 C.F.R. § 124.3 and Rule R317-8-6.1(2) state that the "Director (EPA or Utah Executive Secretary) will not begin the processing of a permit until the applicant has fully complied with the application requirements for the permit, as required by 40 C.F.R. § 122.21 (EPA) or R317-8-3.1 (Utah)." An incomplete application does not allow the agency to evaluate the properties of the proposed discharge, or to write informed, lawful and meaningful permit limitations. Moreover, circulation of a draft permit based on an incomplete permit denies the public a fair opportunity to comment, in violation of the purpose of public notice and comment. *See* 33 U.S.C. §1251(e); 40 C.F.R. Part 25.

The application submitted by Mining Company is incomplete as follows: a) specific intermittent flow information is missing; and b) analytical data is missing for the effluent.

A. The Mining Company did not Include Specific Intermittent Flow Information in the Application.

The revised (January 12, 2010) application reports identical long-term average and daily maximum flow rates, over a 180-day period of the year, of 130 mgd for outfalls 002 through 006, 101 mgd for outfalls 007 and 008, and 86 mgd for outfall 009. This does not properly characterize the volume of the Mining Company's proposed discharge. In the NEPA scoping process, Mining Company asserted that it flushes its evaporation ponds over a one to two week period at some time during the fall or winter months.

Intermittent flow information must be provided in order for the application to be complete. In particular, 40 C.F.R. § 122.45(e) and R317-8-4.3(2)(d)(3)(5) require that non-continuous discharges

> shall be particularly described and limited, considering the following factors as appropriate: frequency (for example a batch discharge shall not occur more than every three (3) weeks, total mass (for example, not to exceed 100 kilograms of zinc and 200 kilograms of chromium per batch discharge, maximum rate of discharge of pollutants during the discharge (for example, not to exceed 2 kilograms of zinc per minute), and, prohibition or limitation of specified pollutions by mass, concentration or other appropriate measure (for example, shall not contain at any time more than 0.05 mg/l zinc or more than 250 (0.25 kg) zinc in any discharge).

Although we can only speculate about potentially appropriate permit limitations under the regulations absent the required information on the specific characteristic of the discharge, the limited available information from other sources indicates that, in the past, Mining Company has released approximately 4.5 million tons of total salts to Bear River Bay over a relatively short period of time each year. Given that Bear River Bay has far lower salinities than Gunnison Bay (from which the Mining Company extracts the salts), and a very different ecosystem, the impacts of this discharge could be very significant. *See* Letter from Dr. William Johnson, University of

Utah, February 12, 2010 (Exhibit A, attached); *see also* Letter from Walt Baker to Lynn de Freitas and R. Jefre Hicks, October 8, 2008 (Exhibit B, attached).[3]

As explained further below, no effort has been made to evaluate whether this massive discharge is causing or contributing to violations of numeric or narrative water quality standards. Moreover, as attached letters by multiple resource agencies attest, Bear River Bay is one of the most important bird habitats in the entire Great Salt Lake ecosystem and supports among the largest and most concentrated populations of resident and migratory birds. Therefore, as required by the above-cited regulations, it might be necessary or appropriate for the permit to require Mining Company to distribute its discharges over a longer time period, to allow discharge only when water levels in Bear River Bay are sufficient to minimize impacts, or, as suggested below, to require the flushing effluent to be discharged back to Gunnison Bay, from which the salt being flushed from the Mining Company's ponds originated.

No effort was made to comply with this regulation, and the application includes no information on which such a decision could be based. Since the Mining Company did not provide all of the necessary information about the discharge, the application should have been deemed incomplete and no draft permit should have been issued.

B. Mining Company did not Include Data on Effluent Characteristics, Which are Critical to a Proper Review of this Permit.

In order for the application to be complete, Mining Company must include data on the effluent characteristics of the discharge. According to 40 C.F.R. § 122.21(7) and Rule R317-3.5(7), "[i]nformation on the discharge of pollutants specified in this paragraph shall be provided." In particular, 40 C.F.R. § 122.21(g)(7)(iii) states that "every applicant must report quantitative data for every outfall for the following: Biochemical Oxygen Demand (BOS), Chemical Oxygen Demand, Total Organic Carbon, Total Suspended Solids, Ammonia (an N), Temperature (both winter and summer) and pH." Moreover, 40 C.F.R. § 122.21(7)(v) requires applicants with processes in one or more of the primary industry categories listed in Appendix A of 40 C.F.R. Part 122[4] to report quantitative data for a broader list of toxic pollutants for each

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[3] The dramatic differences in salinity among the distinct water bodies within the Great Salt Lake system since construction of the solid fill railroad causeway across the lake have been long documented. *See* Ted Arnow and Doyle Stephens, Hydrologic Characteristics of the Great Salt Lake, Utah: 1847-1986, U.S. Geological Survey Water-Supply Paper 2332 (1990). Likewise, the effect of the causeway in creating distinct ecosystems has been noted for decades. *See* Doyle W. Stephens, Changes in Lake Levels, Salinity and the Biological Community of Great Salt Lake (Utah, USA), 1847-1987, Hydrobiologia 197: 139-146, 1990. Kidd Waddell's attached report updates hydrological and salt balance models for the distinct water bodies within the system, and confirms that those significant differences remain. *See* Kidd Waddell, *The Potential Effects of the Proposed Great Salt Lake Minerals Project on the Water and Salt Balance of Great Salt Lake*, Utah, 2010 (Exhibit C, attached).

[4] This list includes inorganic chemicals manufacturing.

outfall containing process wastewater,[5] including several toxic metals and other elements that Dr. Johnson indicates in his letter are likely to be present in the brines taken from Gunnison Bay and transferred to Bear River Bay via this discharge.

This application does not contain any specific analytical data for the discharges occurring at the Mining Company facility as required by both federal and Utah law. Without this information, the application is incomplete and should not have proceeded to the draft permit stage. Moreover, as explained further below, Mining Company's failure to provide detailed information on the volume, nature of pollutants, and concentrations of pollutants in its discharge renders it impossible for the agency to evaluate how either the technology-based or the water quality-based[6] permit requirements of the Clean Water Act. Moreover, it does not appear on the face of the application that Mining Company conducted any actual monitoring of its discharges before submitting its permit application, as required by federal and state law, despite the representation in its December 7, 2009 letter that sampling was under way and that the results would be reported at a later date.

II. DWQ MISAPPLIED 40 C.F.R. §§ 415.160 & 436.120 TO THE MINING COMPANY DISCHARGE

For two fundamental reasons, DWQ cannot justify its reliance on 40 C.F.R. §§ 415.160 and 436.120 to allow the Mining Company to discharge into Bear River Bay. First, the administrative record in no way supports the facts which must necessarily underlie such reliance.[7] Second, available facts – the conclusions of various agencies of the State, along with multiple studies and analysis – all indicate that the two rules cannot operate in the manner adopted by DWQ. We address each of these rules below.

A. DWQ Must Apply the Stricter of 40 C.F.R. §§ 415.160 and 436.120.

Initially, it is vital to understand that, in a situation such as this, where multiple effluent guidelines apply, the CWA and EPA regulations and guidance require DWQ to implement the strictest combination of the two sets of guidelines. Specifically, Sections 301(b) and 304(b) of

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[5] "Process wastewater" is defined as "any water which, during manufacturing or processing, comes into direct contact with or results from the production or use of any raw material, intermediate product, finished product, byproduct, or waste product." 40 C.F.R. § 122.2. Mining Company's flushing discharge clearly fits this definition.

[6] As explained further below, despite the fact that Great Salt Lake is regulated predominantly by narrative standards, absent proper effluent characterization it is impossible to determine whether even the narrative standards will be violated. Since the application does not accurately characterize the effluent, the Draft Permit should not have been issued because the impact of the effluent cannot be ascertained.

[7] If the agency lacks sufficient data, information and analysis to support these pivotal findings, the issuance of the mining company permit is arbitrary and capricious and not adequately supported by the administrative record. If the agency has such information and analysis, but failed to disclose it in the fact sheet and statement of basis, the public has been denied a fair opportunity to comment on the draft permit.

the CWA require EPA to develop industry categories, and then to establish the various categories of effluent limitations (BPT, BAT, etc.) for each category. The Act requires that those limits "shall be achieved" for each source within each category, and therefore DWQ must ensure, where multiple categories apply to an individual discharger, that all aspects of all applicable effluent guidelines "shall be achieved" in the permit.

Further, 40 C.F.R. § 122.44(a) says that permits "shall include" technology-based effluent limitations and standards based on regulations promulgated under Section 301 of the Act, meaning that DWQ must apply all applicable limitations to the Mining Company's discharge. 40 C.F.R. § 122.43(a) says that permit conditions shall "provide for and assure compliance with all applicable requirements of CWA and regulations," meaning that if DWQ applied the weaker of the two regulations, the agency would not be ensuring compliance with all applicable regulations.

In Section 5.1 of the NPDES Permit Writers Manual, the EPA notes that permits should address all applicable standards and requirements for all pollutants discharged. *See* NPDES Permit Writers Manual at 50. The EPA also specifically addresses situations in which multiple categories apply, and clarifies that permit writers must apply each set of guidelines independently. *Id*. at 59-61. Additionally, all of the examples outlined in this section of the Manual support the idea that a permit must implement the strictest combination of the two sets of guidelines. For example, if each set of guidelines regulates different pollutants, all of the pollutants combined must be included in the permit. That is, an agency cannot exclude a pollutant because it is included in one, but not both of the applicable guidelines. If waste streams are combined, dischargers cannot use one to dilute the pollutants in the other (rather than treating them to the levels required by the other guideline).

B. DWQ Did Not Properly Apply 40 C.F.R. § 415.160 Because it Failed to Establish that the Source of the Mining Company's Brine Solution is the Same Body into Which the Company Discharges its Bitterns.

40 C.F.R. Part 415, subpart P establishes the technology-based effluent limitations for the Sodium Chloride Production Subcategory of the Inorganic Chemicals Manufacturing Point Source Category. Relevant to the present matter, 40 C.F.R. § 415.162(a) provides:

> Except as provided in 40 CFR 125.30 through 125.32, any existing point source subject to this subpart and using the solar evaporation process must achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT): There shall be no discharge of process wastewater pollutants to navigable waters, except that unused bitterns may be returned to the body of water from which the process brine solution was originally withdrawn, provided no additional pollutants are added to the bitterns during the production of sodium chloride.

Thus, this rule presumes that there shall be no discharge from the Mining Company's evaporation reservoirs into Bear River Bay. In addition, under 40 C.F.R. § 436.122, the Mining Company would be authorized to discharge into Bear River Bay only if "unused bitterns may be

returned to the body of water from which the process brine solution was originally withdrawn[.]" As we establish below, nothing in the record supports a determination that the Mining Company is, through its discharge, returning bitterns to the same body of water from which the brine solution was originally withdrawn. Moreover, all existing data establish the opposite conclusion – that the Mining Company does **not** return its unused bitterns to the same body of water from which they came.

Initially, DWQ and the applicant admit that the source of the brine solution used in the Bear River Bay evaporation reservoirs is Gunnison Bay, also know as the North Arm of Great Salt Lake. Both also admit that Mining Company discharges its unused bitterns into Bear River Bay. However, without any effort to characterize these bodies of water, DWQ makes the unsupported claim that, because all parts of the Great Salt Lake are hydrologically connected, they make up a single body of water. The agency then concludes that all sections of the Lake are considered the "same body of water." Not only is this factual conclusion unsupported by the record, it does not reflect reality. Therefore, the agency's reliance on it in the context 40 C.F.R. § 415.160 is unsound.

The initial promulgation of the effluent guidelines that establish credit for intake pollutants and effluent limitations for the solar evaporation process (now located in the Code of Federal Regulations at Title 40, Parts 436.120 and 415.160) did not define or explain what EPA meant by "same body of water." Nor has that term been explicated in contemporaneous rulemaking. However, because many bodies of water that are **not** the same[8] – that are chemically, physically and biologically distinct – are hydrologically connected to some degree, clearly *some degree* of hydrological connection alone is not sufficient to meet this test.

Following this reasoning, EPA has provided authority that confirms that Gunnison Bay and Bear River Bay are not the "same body of water" for purposes of 40 C.F.R. § 415.160. Moreover, DWQ's own water quality standards, as well as the relevant literature, conclude that these two water bodies are distinct.

In 1995, EPA comprehensively re-examined the "same body of water" issue when it established guidelines for discharges into the Great Lakes. *See* 40 C.F.R. § 132 Appendix F, Procedure 5 (1995) (an interpretation that is restated in the preamble for streamlining NPDES regulations at 64 FR 46061 (August 1999)). The final rule establishes factors that an agency should consider to determine whether hydrologically connected sources of water are considered the "same body of water." *See Id*. The relevant procedure states:

> b. An **intake pollutant** is considered to be from the same body of water as the discharge if the permitting authority finds that the intake pollutant would have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee. This finding may be deemed established if:

[8] For example, the Jordan River and Great Salt Lake are hydrologically connected.

i. The background concentration of the pollutant in the receiving water (excluding any amount of the pollutant in the facility's discharge) is similar to that in the intake water;

ii. There is a direct hydrological connection between the intake and discharge points; and

iii. Water quality characteristics (e.g., temperature, Ph, hardness) are similar in the intake and receiving waters.

40 CFR 132, Appendix F, Procedure 5.D.2.

In its Statement of Basis, DWQ first claims that "the process brine solution is originally withdrawn from, and later returned to, [] Great Salt Lake." The agency then goes on to state that "[w]hile water quality characteristics and use designations may vary across different areas of [] Great Salt Lake, all portions of the Lake are hydrologically connected, and the Lake is considered a single body of water." However, DWQ offers no basis for this claim and completely neglects to apply the relevant factors. As a result, the agency has failed to provide the necessary support in the for this fundament finding.

In addition, this failing is particularly problematic because all evidence suggests that Gunnison Bay and Bear River Bay are not the same body of water at all. Although there is some degree of hydrological connection between the different water bodies of the Great Salt Lake system, even the 2000 Great Salt Lake Draft Comprehensive Management Plan (CMP) prepared by the Utah Division of Forestry, Fire and State Lands states that the transfer of water from the North Arm to other parts of the lake is very limited, at best. *See* CMP, pages 41-52. This is confirmed by an independent study conducted by Mr. Kidd M. Waddell titled *Review of the Potential Effects of the Proposed Great Salt Lake Minerals Project on the Water and Salt Balance of Great Salt Lake, Utah*, 2010 (with trends of salt balance for 1999-2008). Exhibit C, Waddell Report. This report finds that there has been virtually no exchange from the North Arm to the South Arm (much less Bear River Bay) through the breach since 2003, and only a limited exchange from North to South through the culverts. Waddell Report at 3, ¶¶1 and 2. According to the Waddell report, "the north to south flows range mostly between 0-1,000 [cubic feet per second] cfs, with one measurement of about 1,700 [cfs]." *Id.* The report also finds that the exchange rate from south to north is nearly three times that of the north to south exchange, in flows ranging from 0 to greater than 3,500 cfs. *Id.* In other words, the report finds that the North Arm, or Gunnison Bay, is essentially downstream from the South Arm, which is downstream from Bear River Bay.[9]

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[9] These findings are confirmed by the applicant, who recognizes that Gunnison Bay is a separate body of water for Bear River Bay. For example, on form 2-C, page 1 of 4, Mining Company notes the outfall location as "Bear River Bay" for outfalls 002-008, and "Great Salt Lake" for outfall 009. In addition, the applicant makes the following statement in the narrative description of the salt flushing process in Appendix A of its application: "The salt-enriched water is then discharged into the Bear River Bay, south of the Bear River Bridge, *where it joins* the Great Salt

The critical determination under the relevant rule is whether the pollutants in question would have reached the vicinity of the outfall point within a reasonable period absent the permittee's activities. That this is clearly not the case illustrates the most fundamental problem with application of 40 C.F.R. § 415.160 to allow this discharge. At best, only minute amounts of salts from Gunnison Bay would ever reach Bear River Bay absent Mining Company's operations (and even that has not been shown on the record). Indeed, as has been the case for Mining Company's unpermitted discharges for many years, the proposed discharge would result in the net transfer of millions of tons of salts from Gunnison Bay – the most saline water body within the Great Salt Lake system – to Bear River Bay – the water body with by far the lowest salinity concentrations during the bulk of the year.

Examination of the factors which are relevant to a determination of whether the pollutants in question would have reached the outfall absent the permittee's activities further confirm that Gunnison Bay is not the same body of water as Bear River Bay. First, there is no analysis of pollutant concentrations in either the source of the saline solution (Gunnison Bay) or the water that receives the unused bitterns (Bear River Bay), or even any information on the record on which to base that analysis. At the same time, contrary to DWQ's assertion, studies produced by Utah Division of Forestry, Fire and State Lands, USGS, and others indicate that the various areas of the lake have evolved separately and have unique chemical characteristics since the final construction of the Bagley Fill and the Southern Pacific Railroad Causeway. In particular, the CMP reports that the salinity in the North Arm, or Gunnison Bay, is between 24-26%, whereas Bear River Bay has a salinity level of only 1-2%. CMP at 41, 45.

Second, as discussed above, while there may be a limited hydrological connection between Gunnison Bay and Bear River Bay, there is nothing in the record to support the agency's contention that the source of the brine solution enjoys a "direct hydrological connection" to Bear River Bay. These bodies of water are separated by a physical barrier and the significant difference in their characteristics – including chemical and biological – dispels any claim that water between the two is exchanged.

Third, there is nothing to support the assertion in the Statement of Basis that Gunnison Bay and Bear River Bay have the same water quality characteristics in terms of pH, hardness and/or temperature, primarily because the water quality characteristics have not been analyzed at all. Moreover, the CMP and voluminous other agency and scientific studies cited above identify physical and biological differences between the North Arm and Bear River Bay.

Moreover, 40 C.F.R. § 132 Appendix F, Procedure 5 also states that, "[t]he permitting authority may also consider other site-specific factors relevant to the transport and fate of the pollutant to make the finding in a particular case that a pollutant would or would not have reached the vicinity of the outfall point in the receiving water within a reasonable period had it not been removed by the permittee." In order to establish this, DWQ would have to show that

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Lake." (emphasis added). These notations support the position that these two areas are indeed worthy of distinction, and are thought of in different terms.

"but for" the removal of the intake water from the North Arm, the waste salt and other constituents of the effluent would have reached the discharge point in Bear River Bay naturally. Again, there is nothing in the record to support such a finding, and, indeed, the reality of the Great Salt Lake system is that no such finding could be made.

Finally, we note that DWQ makes entirely inconsistent assumptions in this regard in different aspects of its findings. First, the agency's own rules designating the beneficial uses of Utah's waters delineate between Bear River Bay and Gunnison Bay. Utah Admin. Code r. 317-2-6.5. In addition, in its Statement of Basis, DWQ asserts that the Great Salt Lake-specific numeric water quality criterion for selenium (addressed below) does not apply to this discharge because the proposed discharge is into Bear River Bay and not into Gilbert Bay, where the numeric criterion applies. This must presume that Bear River Bay and Gilbert Bay are distinct bodies of water, or that there is little or no hydrological connection between the two bodies of water, or both. Yet, for purposes of applying the exception in EPA's effluent limitations guidelines, DWQ finds inconsistently, and contrary to all available information, that Gunnison Bay and Bear River Bay are the same body of water.[10]

Thus, absent a convincing showing that unused bitterns, which are discharged into Bear River Bay and come from Gunnison Bay are returned to the same body of water from which they were originally withdrawn, 40 C.F.R. § 415.162(a) does not allow the Mining Company discharge. As a result, the proposed permit is fatally flawed.

C. DWQ Did Not Properly Apply 40 C.F.R. § 436.120 to the Permit.

40 C.F.R. Part 436, subpart L, establishes the technology-based effluent limitations for the Salines from Brine Lakes subcategory of the mineral processing industry. Relevant to the present matter, 40 C.F.R. § 122 provides:

> (a) Except as provided in §§ 125.30 through 125.32, and subject to the provisions of paragraph (b) of this section, any existing point source subject to this subpart shall achieve the following effluent limitations representing the degree of effluent reduction attainable by the application of the best practicable control technology currently available (BPT): there shall be no discharge of process waste water pollutants into navigable waters.
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> (b) The limitations specified in paragraph (a) of this section shall be applied on a net basis if the discharge is in compliance with § 125.28 of this chapter "the source of the applicant's water supply is the same body of water into which the discharge is made * * *".[11]

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[10] As we show below, there is much more evidence that pollutants from the Bear River Bay discharge flow immediately into Gilbert Bay during much of the year than there is that pollutants from Gunnison Bay reach Bear River Bay in more than de minimums amounts.

[11] 40 C.F.R. § 125.28, referred to in paragraph (b), no longer exists. This casts doubt on the continuing validity and interpretation of the entire paragraph (b). However, an arguably similar provision exists at 40 C.F.R. § 122.45(g).

Thus, this rule again presumes that there shall be no discharge from the Mining Company's evaporation reservoirs into Bear River Bay. In addition, under 40 C.F.R. § 436.122, the Mining Company would be authorized to discharge pollutants into Bear River Bay only under the circumstance where **both**: 1) "the source" of its "water supply is the same body of water into which the discharge is made;" and, 2) the other requirements of § 125.28 are met. As we establish below, nothing in the record supports a determination that these factors apply to the Mining Company discharge and, in any case, all existing data establish the opposite conclusion.

1. DWQ Can Adjust the Requirements of 40 C.F.R. § 436.122 Only For Pollutants in Bear River Bay Intake Water.[12]

Initially, under 40 C.F.R. § 436.122, DWQ may adjust effluent limitations on the Mining Company discharge to reflect "credit" for pollutants in its intake water only where "**the discharger demonstrates** that the intake water is drawn from the same body of water into which the discharge is made." 40 C.F.R. § 122.45(g). In the present case, the Mining Company bears the burden of establishing that this requirement is met – which it has not.[13] In any case, presuming the company can so demonstrate, DWQ may only apply credit for pollutants that exist in intake water from Bear River Bay for discharge into Bear River Bay.[14]

2. DWQ Has Misapplied 40 C.F.R. § 436.122.45(g)

Once again, DWQ has misapplied the relevant rules. Most glaringly, the agency has failed to require Mining Company to demonstrate that its intake water is drawn from the same body of water into which the discharge is made. 40 C.F.R. § 122.45(g). By the same token, the agency has also failed to require an analysis of the pollutants in the relevant intake water as well as to require monitoring of the discharge. Additionally, the agency has entirely failed to consider the other requirements of 40 C.F.R. § 122.45(g), much less undertake the data collection and analysis necessary to present its reasoning to the public or to guarantee that any proposed credit complies with the rule.

Finally, the record is devoid of any analysis describing how DWQ applied a pollutant credit. For example, it is improper for DWQ to assume that the pollutants in the intake and discharge water – where that water is taken out of and returned to the same body of water – are the same and that Mining Company is not responsible for removing any added pollutants prior to discharge. Said another way, all evidence indicates that Mining Company intakes water from

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[12] For the purposes of the following discussion, we will assume that 40 C.F.R. §436.122(b) refers to 40 C.F.R. § 122.45(g). However, we in no way relinquish the argument that because 40 C.F.R. § 125.28, referred to in paragraph (b) no longer exists, the provision and any interpretations found in that regulation are invalid and void.

[13] Certainly, based on the discussion above, Mining Company has not shown that Gunnison Bay is the same body of water as Bear River Bay, nor can it.

[14] Where the Mining Company discharge meets all other provisions of 40 C.F.R. § 122.45(g) and it could so prove, credit could be provided for pollutants in Gunnison Bay intake water, but only for discharges into Gunnison Bay itself.

Bear River Bay that is low in dissolved minerals, mercury and selenium and discharges water into Bear River Bay that is extremely high in dissolved minerals, mercury and selenium. Therefore, DWQ must account for its apparent decision to give Mining Company credit for significant amounts of pollutants that do not exist in its intake water. In any case, DWQ is remiss to rely on 40 C.F.R. § 436.122 and 40 C.F.R. § 122.45(g) without data quantifying the pollutants in the Bear River Bay intake water and quantifying the pollutants in the Bear River Bay discharges.

Similarly, DWQ has not accounted for its apparent decision to give Mining Company credit for pollutants in its Outfall 009. Here, we can presume – because the agency does not explain itself or provide data to support its conclusions – that DWQ has given credit to Mining Company for pollutants in Gunnison Bay intake water for the purposes of its discharge into Gunnison Bay. This agency action reflects the lack of data and analysis detailed above and therefore is likewise unsound.

For all of the above reasons, DWQ has failed to establish that the exceptions to the presumptive zero discharge requirements in 40 C.F.R. §§ 415.160 and 436.120 apply. Moreover, all evidence suggests that DWQ must prohibit the Bear River Bay discharges. Although we reserve judgment on the appropriate course of action pending a complete and valid permit application and draft permit, as well as the necessary attendant analysis and data, there are at least two potentially lawful ways to proceed. First, DWQ could impose the zero discharge requirements contained in both sets of EPA guidelines, in which case Mining Company would be required to dispose of its waste materials at an upland site or otherwise sell or remove its excess bitterns from its evaporation reservoirs. Second, GSLM could discharge the effluent from its flushing operations back into the North Arm, the original source of its brine extraction. The latter course would properly fulfill the intent of the intake credit regulation, in that it would return the brines to their source body of water. Moreover, it would avoid the significant potential (but as yet unstudied) environmental impacts of transferring massive quantities of salts and toxic water pollutants from the highly saline waters of Gunnison Bay to the relatively fresh waters of Bear River Bay.

That said, it is highly incumbent on Mining Company and DWQ to undertake the analysis necessary to determine the factors required to properly regulate the Mining Company discharge, including all relevant outfalls. In addition, the agency must understand the environmental impacts of any single discharge, as well as the cumulative impacts of the unregulated discharges which have been released into a highly sensitive environment for the past twelve years. We have proposed a method for a proper assessment below. With proper analysis, other means of regulating the Bear River Bay discharge and adequately protecting the sensitive wildlife habitat of Bear River Bay may present themselves.

III. THE RECORD DOES NOT SUPPORT DWQ'S CLAIM THAT NO ENVIRONMENTAL DEGRADATION WILL OCCUR AS A RESULT OF THIS DISCHARGE.

In the Statement of Basis associated with the Draft Permit, DWQ writes: "based on a review of available data that the discharge of flushing waters/bitterns into Bear River Bay will

not result in degradation." Statement of Basis at 3. According to the UPDES regulations and the fundamental requirements of administrative law, the agency is required to provide reasons to support these statements. *See* Utah Admin. Code r. 317-8 (2009). There is no reference to the type of data that DWQ used to make this determination and no articulation of why there would be no degradation. Further, there is no indication that these specific discharges have been studied to determine whether they have resulted in environmental degradation in the past, or whether they are likely to result in degradation in the future. No analytical information is contained in the permit application, Draft Permit or the Statement of Basis to support or justify a determination that no degradation will occur. Because of the lack of identifiable data that speaks to the specific issue of the impact of this discharge on the receiving waters, DWQ's statement that there will be no resultant degradation is unsupported. As a result, DWQ could not evaluate whether the discharge will cause or contribute to violations of applicable water quality standards, and could not properly determine whether water quality-based effluent limitations are required for this discharge.

A. The Numeric Standard for Selenium in Gilbert Bay Applies to the Permit Because the Discharge Flows Directly into Gilbert Bay.

UPDES permits must include water quality-based effluent limitations necessary to achieve state water quality standards. Utah Admin. Code r. 317-4-2(4) (2009); 40 C.F.R. § 122.44 (2009). These limitations must control all pollutants that may be discharged at a level that has the reasonable potential to cause or contribute to an excursion above any state water quality standard. Utah Admin. Code r. 317-4-2(4)(a)(1); 40 C.F.R. § 122.44(d)(1)(ii). And, when "a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit *must* contain effluent limits for that pollutant." Utah Admin. Code r. 317-4-2(4)(a)(3); 40 C.F.R. § 122.44(d)(1)(iii) (emphasis added).

Utah regulations contain numeric criteria for selenium in Gilbert Bay. Utah Admin. Code r. 317-2-7 (2009). Although Mining Company discharges into Bear River Bay, the discharge migrates directly into Gilbert Bay, causing potential violations of that standard. In fact, during the NEPA scoping process on the Mining Company's proposed expansion, data and studies were presented demonstrating that at least significant quantities of the annual flushing discharge move southward through the opening in the railroad causeway and directly into Gilbert Bay. The display at the scoping meetings titled "Water Current Monitoring" depicts southward flow of both surface and deep currents through the breach in the railroad causeway during October and November, 2008. Although we believe there is evidence of northerly currents due to wind events and other factors at other times during the year, it is clear that selenium and other pollutants from this discharge are likely to reach Gilbert Bay in significant quantities and that DWQ must implement applicable water quality standards (numeric and narrative) in both Bear River Bay where these discharges originate, and in Gilbert Bay, into which at least significant amounts of pollutants from the discharge flow.

Both the Utah Division of Wildlife Resources (DWR) and the U.S. Fish and Wildlife Service (FWS) have expressed concerns about the levels of selenium in the Great Salt Lake and

Bear River Bay. FWS expressed concern over these specific types of discharges into Bear River Bay. *See* Comments by FWS re Mineral Lease, near Clyman Bay (Gunnison Bay), Great Salt Lake, May 1, 2007 (Exhibit D, attached) ("The concern with the flushing of brines from GSL Minerals' solar ponds is that mercury and selenium may be concentrated in the remaining brines and flushed back to Bear River Bay and GSL in a plume."); *see also* Comments by DWR re RDCC #10516 Army Corps of Engineers Great Salt Lake Minerals Solar Evaporation Ponds Expansion Project, New Scoping Notice for EIS, June 30, 2009 (Exhibit E, attached) ("The presence of selenium and mercury is a serious concern as it has been found within the GSL and surrounding wetlands."). Furthermore, Mining Company admits that they believe selenium is present in the discharge. *See* Permit Application. Thus, although there are no numeric standards in Bear River Bay, the discharge has the potential to affect a state numeric water quality standard for selenium in Gilbert Bay.

A permit issuer must consider the downstream effects of a discharge when determining permit conditions. The Utah Administrative Code states that "each UPDES permit will include conditions on a case by case basis to provide for and ensure compliance with *all* applicable Utah statutory and regulatory requirements[.]" Utah Admin. Code r. 317-8-44.2(4) (2009) (emphasis added); *see also* Utah Admin. Code r. 317-2-8 (2009) ("All actions to control waste discharges under these regulations shall be modified as necessary to protect downstream designated uses."). This is necessary to implement the requirement of the Clean Water Act and EPA's implementing regulations that effluent limitations be sufficient "to implement any applicable water quality standard." 33 U.S.C. §1311(b)(1)(C) (2006); 40 C.F.R. §122.44(d). Furthermore, EPA has stated that states should consider downstream uses when determining standards, *see* EPA Water Quality Standards Handbook 2-4 (2d ed. Aug. 1994), and the Supreme Court upheld EPA's regulations (binding on delegated state programs) requiring permit writers to consider effects on downstream users when issuing permits. *Arkansas v. Oklahoma*, 503 U.S. 91, 106-07 (1992) (regarding applicability of downstream state's water quality standards 39 miles and three tributaries downstream from the discharge). Because the discharge flows into Gilbert Bay, DWQ is required to consider the effects that the discharge would have on selenium levels in Gilbert Bay. Furthermore, because the discharge would ultimately "cause, have the potential to cause, or contribute" to a violation of the numeric selenium standard, a permit condition is required to limit the amount of selenium in the discharge.

B. DWQ Must Include Site-Specific Conditions Limiting the Discharge of Mercury in Bear River and Gilbert Bays, and Selenium in Bear River Bay.

The permit issuer has the duty to determine if a discharge has the reasonable potential to cause or contribute to a violation of a narrative state water quality standard. Utah Admin. Code r. 317-4-2(4)(a)(1); 40 C.F.R. § 122.44(d)(1)(i). If the permit issuer finds that there is a potential for a violation, the permit must either contain effluent limits based on whole effluent toxicity, 40 C.F.R. § 122.44(d)(1)(v), or establish effluent limits for the particular chemical pollutant. 40 C.F.R. § 122.44(d)(1)(vi). DWQ failed to take the steps necessary to determine if there is a reasonable potential for a violation of the narrative standard for Great Salt Lake. And, based on the presence of mercury and selenium in the discharge, potentially leading to a violation of the narrative standard, DWQ failed to establish effluent limits for those toxics in the Mining Company's permit. Furthermore, because of the lack of quantitative monitoring data in the

permit, it is impossible to determine if there is a potential for a violation because of the presence of other pollutants. Based on data from analysis of samples from Gunnison Bay, there is a reasonable potential that other toxic pollutants, such as arsenic, will violate the water quality standard. *See* Exhibit A, Letter from Dr. William Johnson. DWQ had a duty to investigate and determine if anything in the discharge would cause a violation.

C. DWQ has an Obligation to Investigate Whether the Discharge Would Cause a Violation of the Narrative Standard for Great Salt Lake.

All permits must have limitations necessary to meet all water quality standards, including narrative criteria. 33 U.S.C. § 1311(b)(1)(C) (2006). The conditions must control all pollutants or pollutant parameters which the permit issuer determines either causes, or has the reasonable potential to cause or contribute to an excursion above any state water quality standard, including narrative criteria for water quality. 40 C.F.R. § 122.44(d)(1)(i); s*ee also* National Pollutant Discharge Elimination System; Surface Water Toxics Control Program, 54 Fed. Reg. 23,868, 23,877 (June 2, 1989) (noting that EPA's legal obligation to assure that NPDES permits meet all applicable water quality standards could not be set aside until states promulgate numeric water quality criteria for all their standards). The permit issuer must make this determination as to whether the discharge has the potential to cause or contribute to a violation of a state water quality standard. U.S. EPA NPDES Permit Writers' Manual 99 (Dec. 1996) (stating that "[a]t a minimum, the permit writer must make this determination at each permit reissuance"). In making this determination, the permit issuer should use various procedures, including those "which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water." Utah Admin. Code r. 317-8-4.2(a)(2); 40 C.F.R. § 122.44(d)(1)(ii).

The permit issuer must provide reasons to support its determination that the discharge will or will not have the potential to violate a water quality standard. Environmental Protection Agency, Technical Support Document for Water Quality-based Toxics Control § 3.3 (1991). The permit issuer must make an informed determination about effects on the water quality standard based on actual monitoring or other types of data. *See id.* at §§ 3.2-3.3. Although monitoring data is preferred, when actual monitoring data is not available, the permit issuer can consider such factors as the available dilution for the effluent, the type of industry, history of compliance problems and toxic impacts, and the type of receiving water and its designated uses. *Id.* at § 3.2. These factors should, if possible, be used along with any available monitoring data. *Id.*

The Draft Permit, Fact Sheet, and Statement of Basis contain no indication that DWQ analyzed whether the Mining Company's discharge would violate the water quality standard for Great Salt Lake. The only statement in the Fact Sheet and Statement of Basis is that "DWQ has determined based on a review of available data that the discharge of flushing waters/bitterns into Bear River Bay will not result in degradation." DWQ cites no data, studies, or other analysis to support this conclusion. As discussed extensively above, Utah regulations require that a permit application be complete. Utah Admin. Code r. 317-8-3.1(5). The permit application cannot be complete without any description or analysis as to why the discharge will not violate any water

quality standard. In *Illinois Environmental Protection Agency v. Illinois Pollution Control Board*, the Illinois Court of Appeals held that the application must contain sufficient information for the permit issuer to determine that the discharge would comply with all state and federal requirements. 896 N.E.2d 479, 486 (Ill. App. Ct. 2008). It upheld a Pollution Control Board decision striking down a permit based on the absence of any indication that the Illinois Environmental Protection Agency did anything "to assess or evaluate the impact of an increased discharge. . . to assure the narrative water quality standards could be maintained." *Id.* at 489. The assessment included a similar conclusion to DWQ's, that the discharge would not exacerbate algae problems. *Id.* The court upheld the Board's finding that the record did not have enough evidence to support this finding and that there was not "'sufficient information' to determine that the numeric and narrative water quality standards would not be violated[.]" *Id.* at 490. An applicant cannot submit an incomplete application, without the proper data, and then assert the absence of water quality problems based on that absence of information.

The only available data that Mining Company supplied are reports from BioWest that tested for the presence of nitrates, phosphorous, total suspended solids, total dissolved solids, selenium and mercury.[15] There is no analysis of impacts; only a bare conclusion that the available data shows that there will be no degradation. Multiple state agencies and EPA have highlighted the importance of testing and examining the long-term impacts of this discharge on water quality and lake ecology. In fact, DWR stated that, in order to accomplish a proper analysis of these discharges, they must have at least one full year of date measuring possible effects. Letter from W. Clay Perschon to GSL Minerals Study Team (Nov. 19, 1997) (Exhibit F, attached). Specifically:

> What are the potential long-term impacts to water quality and salinities associated with the removal of salts from the GSL? What are the long-term impacts to water quality and salinities associated with the flushing of salts from the ponds in "pulses" into Bear River Bay and with "moving" the salts from Clyman Bay to Bear River Bay? What will be the impacts to algae, submerged aquatic vegetation, wildlife, brine shrimp populations and each Bay's ecology.

Public Lands Policy Coordination. Letter from John Harja to Jason Gipson (July 7, 2009) (Exhibit G, attached).

> What are the potential long term impacts to water quality and salinities associated with the removal of salts from the GSL? What are the long-term impacts to water quality and salinities associated with the flushing of salts from the ponds in "pulses" into Bear River Bay and with "moving" the salts from Clyman Bay to Bear River Bay? What will be the impacts to algae, wildlife, brine shrimp populations and each Bay's ecology?

Exhibit E, DWR Comments.

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[15] Apparently, the monitoring undertaken by BioWest was insufficient because, *inter alia*, the equipment used to analyze the water was insufficiently robust to detect toxins and other pollutants in the small quantities that can demonstrate degradation.

> We recommend that prior to granting any new lease, the impact of adding these brines to on the water quality in the Bay be modeled.

Fish and Wildlife Service. Letter from Larry Crist to Resource Development Coordinating Committee (May 1, 2007) (Exhibit H, attached)

Despite the apparent importance of analysis of water quality to other state and federal agencies, DWQ has failed to evaluate the effects of the discharge at all. It has not analyzed any effects that the discharge will have on water quality, salinity, wildlife or ecology. Without such analysis, it is impossible for DWQ to simply conclude that there will be no impacts. As the DNR suggested, DWQ and Mining Company needed at least one year's worth of data, including salinity levels, to adequately analyze the effects. DWQ's determination of no impact is completely unsupported.

Further, based on actual data, there is evidence that mercury in the discharge leads to at least a potential contribution to a violation of the narrative standard. The applicable standard for Bear River Bay is a narrative standard:

> It shall be unlawful, and a violation of these regulations, for any person to discharge or place any waste or other substance in such a way as will be or may become offensive such as unnatural deposits, floating debris, oil, scum or other nuisances such as color, odor or taste; or cause conditions which produce undesirable aquatic life or which produce objectionable tastes in edible aquatic organisms; or result in concentrations or combinations of substances which produce undesirable physiological responses in desirable resident fish, or other desirable aquatic life, or undesirable human health effects, as determined by bioassay or other tests performed in accordance with standard procedures.

Utah Admin. Code r. 317-2-7.2.

As they are troubled about selenium levels in the Lake, agencies are concerned about increasing levels of mercury in Great Salt Lake and Bear River Bay as sampling has found mercury levels to be elevated. *See* Exhibit H, Letter from Larry Crist. Levels have increased to a point where they are presumed to have the potential to cause health effects. Recent advisories on duck consumption demonstrate that this standard is violated because the discharge results in concentrations or combinations of substances that produce undesirable physiological responses in aquatic life and undesirable human health effects. Ducks tested from Bear River Bay had mercury levels that exceeded EPA's screening value of .3mg/kg. *See* Utah Waterfowl Advisories.[16] Two out of three common goldeneye ducks that were tested exceeded that level, with the average being .562 mg/kg. *Id.* They also exceeded the .3 mg/kg level in Ogden Bay, where the average for the cinnamon teal was .335 mg/kg, .706 for the common goldeneye, and .308 mg/kg for the northern shoveler. *Id.*

[16] Found at http://waterfowladvisories.utah.gov/map.htm (last visited Feb. 11, 2010).

Furthermore, these consumption advisories and methyl mercury concentrations in Gilbert Bay suggest the possibility of mercury methylation occurring as a result of the discharge. *See* Exhibit A, Letter from Bill Johnson. "High methyl mercury concentrations in the Great Salt Lake are associated with denser brines that do not mix with overlying waters, leading to lack of algal photosynthesis and onset of anoxia, a condition that supports mercury methylation." *Id.* There is some likelihood that Mining Company discharge contributes to these conditions. However, neither Mining Company nor DWQ has submitted sufficient evidence to state with confidence that these effects are not occurring.

Based on these data, it is clear that the discharge at least has the potential to contribute to a violation of the narrative standard for Great Salt Lake.

D. Because the Discharge has the Potential to Cause or Contribute to a Violation of a State Water Quality Standard, Conditions on the Discharge Must be Included in the Permit.

EPA and UPDES regulations require that applicable state water quality standards shall be included in permit conditions when necessary to achieve state water quality standards, including narrative standards. Utah Admin. Code r. 317-8-4.2(a); 40 C.F.R. § 122.d(1)(i); *see also* Memorandum from Michael B. Cook, Director, Office of Wastewater Enforcement and Compliance, to Water Management Division Directors, Regions I-X, Clarifications Regarding Certain Aspects of EPA's Surface Water Toxics Control Regulations (Aug. 4, 1992) (clarifying that water quality-based limits must be established when the permitting authority reasonably anticipates the discharge of pollutants by the permittee at levels that have the reasonable potential to cause or contribute to an excursion above state narrative criteria for water quality).[17] Because the discharge contains mercury and selenium, both listed toxic pollutants, Utah Admin. Code r. 317-8-3, and potentially other toxic pollutants, and has the potential to cause or contribute to a violations of the narrative water quality standard for Bear River Bay, DWQ should have included permit conditions incorporating this standard and limiting these pollutants.

There are various methods that can be used to incorporate narrative criteria into a permit in the absence of numeric criterion. *See* Utah Admin. Code r. 317-8-4.2(6); 40 C.F.R. § 122.44(d)(1)(iv); *American Paper Institute, Inc. v. United States Environmental Protection Agency*, 996 F.2d 346, 350-52 (D.C. Cir. 1993) (upholding the methods listed in 40 C.F.R. § 122.44(d)(1)(iv) and the requirement that one be used). The permit issuer can establish effluent limits using a numeric water quality criterion for the pollutant that will attain and maintain narrative criteria and fully protect the designated use. *Id.* In deriving such a criterion, the permit issuer may use a proposed state criterion, or an explicit state policy or regulation interpreting the narrative quality criteria supplemented with other relevant information, such as EPA's Water Quality Standards Handbook, risk

[17] Available at: http://www.epa.gov/npdes/pubs/owm0098.pdf.

assessment data, exposure data, information about the pollutant from the FDA, and current EPA criteria documents. In a situation such as the one here, where there are no state regulations or policy on point, the permit issuer **must** use another listed option in 40 C.F.R. § 122.44(d)(1)(iv) and Utah Admin. Code r. 317-8-4.2(6) to incorporate the narrative criteria. See Cook Memo. The permit issuer cannot, instead, decide to do nothing, as DWQ has done here.

Alternately, in incorporating the narrative criteria for Bear River Bay into the permit, DWQ could have chosen to: (1) establish effluent limits on a case by case basis, using EPA's water quality criteria, published under section 307(a) of the Clean Water Act, supplemented where necessary by other relevant information; or (2) establish effluent limitations on an indicator parameter for the pollutant if certain conditions are met. Utah Admin. Code r. 317-8-4.2(6); 40 C.F.R. § 122.44(d)(1)(iv). Because of the potential for a violation of the narrative water quality standard in Bear River Bay, DWQ was required to use one of these methods to incorporate the narrative criteria into the permit.

E. DWQ Should Have Considered the Impacts of the Discharge on the Designated Uses of Bear River Bay and Gilbert Bay.

Bear River Bay and Gilbert Bay are designated as Class 5C and 5A waters respectively and are "[p]rotected for infrequent primary and secondary contact recreation, waterfowl, shore birds and other water-oriented wildlife including their necessary food chain." Utah Admin. Code r. 317-2-6 (2009). This description of the designated uses is not indicative of the actual uses and the importance of this area. These areas are "of hemispheric importance to migratory waterbirds. . . and many species use the GSL as nesting, feeding and staging areas" *See* Exhibit G, Letter from John Harja. Bear River Bay, in particular, "is highly important to waterbirds[.]" The area is also an important foraging and resting habitat for other waterfowl due to the fresh water, aquatic macrophytes, and other aquatic biota that exist in the bay." Exhibit D, FWS Comments.

These uses must be maintained, and "[n]o water quality degradation is allowable which would interfere with or become injurious to existing instream water uses." Utah Admin. Code r. 317-2-3 (2009); s*ee also* 40 C.F.R. § 131.12(a)(1) (2009) ("Existing instream water uses and the level of water quality necessary to protect the existing uses shall be maintained and protected").

To ensure this protection, DWQ must, *inter alia*, conduct an adequate antidegradation review. Antidegradation review is required for all proposed federally regulated activities, including UPDES Permits. Utah Admin. Code r. 317-2-3-5 (2009); 40 C.F.R. § 131.12. DWQ made no evaluation as to actual effects on the designated uses. Instead, the antidegradation review submitted by the applicant is comprised simply of a form with boxes checked that the project will not impair the designated uses and that the water quality impacts will be *de minimis*. The justification for these conclusions contains no actual analysis on the actual impacts and simply states that there is no processed wastewater because the discharge is merely brine being discharged into the same body of

water from which it was originally withdrawn. Moreover, there is nothing in the record to suggest or to support any independent review or analysis by DWQ of the form submission by the applicant. As discussed above, the unused bitterns are not being discharged into the same body of water from which the saline solution was withdrawn. And, because Gilbert Bay and Bear River Bay are different bodies of water, separate reviews should be conducted for impacts to those water bodies. Furthermore, DWQ and Mining Company fail to consider the effects that these discharges will have on the concentrations in Bear River Bay and Gilbert Bay, to include effects on wildlife. Conditions should have been inserted into the permit protecting these designated uses.

DWQ is under an obligation to consider the degradation that these discharges will have on the water quality of Gilbert Bay and Bear River Bay, including the actual effects that these discharges will have on wildlife. Nothing in the permit application or in the Draft Permit supports a conclusion that a serious evaluation of whether these discharges cause impairment of designated or existing uses has been conducted. Until such time as DWQ has made such a determination based on sufficient data, it is inappropriate for the agency to approve this discharge permit.

IV. A PERMIT MODIFICATION IS INAPPROPRIATE FOR THESE DISCHARGES.

The Mining Company discharges described in the permit application have never been permitted before, and therefore a permit modification is inappropriate. NPDES and UPDES regulations specifically define the circumstances that allow for a permit modification, and the Mining Company's discharges do not meet any of them. *See* 40 C.F.R. § 122.62 (2008); Utah Admin. Code r. 317-8 (2009) (adopting the provisions of the federal NPDES regulations). According to both federal and Utah law, a permit may only be modified for the following reasons: a) alterations, b) unavailable information, c) new regulations, d) compliance schedules or e) the Executive Secretary (in Utah) deems it appropriate based on one or more of many conditions (each of these conditions are listed separately in the EPA regulations as will be noted below). Each of these factors is discussed below.

A. The Modification Request is Not Made Due to an Alteration.

The Mining Company's permit application is not being requested because the facility is being altered. In order to qualify under this cause, the application must result from "material and substantial alterations made to the permitted facility or additions made to the permitted facility or activity which occurred after permit issuance… [because these types of alterations] may justify the application of revised permit conditions which are different or absent in the existing permit." *See* 40 C.F.R. § 122.62(a)(1); Utah Admin. Code r. 317-8.5.6(1)(a). The application does not (and cannot) assert that the inclusion of these discharges is the result of any alterations or additions that occurred after the original permit issue date that may alter the terms of the existing permit. On the contrary, Mining Company has been discharging washwater into Bear River Bay without a UPDES permit for many years, and has not altered its process or facilities in a manner that meets the conditions of a modification under this rule.

B. The Mining Company Permit Does Not Meet the Requirements for Modification Due to Unavailable Information.

The permit conditions set forth in UPDES #UT0000647 were not the result of unavailable information as of the time the initial application was submitted, and this permit does not cover any discharge described in the original permit application. According to both 40 C.F.R. § 122.62(a)(2) and R317-8-5.6(1)(b), a permit modification may be appropriate "only if the information was not available at the time of the permit issuance (except for revised regulations, guidance or test methods) and would have justified the application of different permit conditions at the time of the issuance." *See* 40 C.F.R. § 122.62 (2008); Utah Admin. Code r. 317-8 (2009). This application does not meet these requirements because the process at the Mining Company facility has not changed, no new information has been presented, and the rules have not changed in a manner that would have invalidated permit conditions. The discharges listed in the permit application have never been permitted, but have been on-going at the Mining Company facility for several decades. Since the information about these discharges has been available for many years, and the pertinent regulations have not changed in a way that would alter permit conditions since they were finalized in 1975, a permit modification is not due to the Mining Company based on a lack of available information.

C. Mining Company Application Does Not Meet the Requirements for a Modification Based on New Rules or Regulations.

The discharges included in the permit application are not included because of a change in regulations or by court order, and therefore do not meet the requirements of this rule. According to 40 C.F.R. § 122.62(a)(3) and R317-8-5.6(1)(c), a permit modification because of new rules or court order may only occur as follows:

> 1. For promulgation of amended standards or regulations, when:
>
> a. The permit condition requested to be modified was based on promulgated effluent limitation guidelines, EPA approved or promulgated water quality standards; or the Secondary Treatment Regulations under Part 133; and
>
> b. EPA has revised, withdrawn, or modified that portion of the regulation or effluent limitation guideline on which the permit condition was based or has approved the Executive Secretary's action with regard to a water quality standard on which the permit condition was based; and
>
> c. A permittee requests modification in accordance with 40 C.F.R. §124.5 or R317-8-6.1 within ninety (90) days after the FEDERAL REGISTER notice of action on which the request was based, [and for the Utah Rules] amendment, revision or withdrawal is promulgated.
>
> 2. For judicial decisions, a court of competent jurisdiction has remanded and stayed EPA promulgated regulations or effluent limitation guidelines, if the remand and stay concern that portion of the regulations or guidelines on which the permit condition was based and a request is filed by the permittee in accordance with 40 C.F.R. §124.5 (EPA) or R317-8-6.2 9 (Utah) within ninety (90) days of judicial remand.

40 C.F.R. § 122.62 (2008); Utah Admin. Code r. 317-8 (2009).

Since modifications based on new rules or regulations or court orders apply only to discharges operating under a current permit, and these discharges have never been permitted, a modification cannot be justified on those grounds.

D. The Mining Company Application Cannot Be Classified as a Modification Due to Inability to Meet Compliance Schedule Requirements.

The Mining Company discharges are not currently permitted and therefore do not have compliance schedules that they cannot meet that would justify a permit modification. According to 40 C.F.R. § 122.62(a)(4) and R317-8-5.6(1)(d), a permit modification may be appropriate if the "Director [(EPA) or Executive Secretary (Utah)] determines good cause exists for modification of a compliance schedule, such as an act of God, strike, flood or materials shortage or other events over which the permittee has little or no control and for which there is no reasonably available remedy. However, in no case may an "NPDES [(EPA) or UPDES (Utah)] compliance schedule be modified to extend beyond an applicable statutory deadline [in R317-8-7. (Utah)]." *Id.* The reason that Mining Company is requesting a permit modification cannot be justified under any of the examples stated within the compliance schedule rule primarily because these discharges have never been permitted.

E. Mining Company Application Cannot be Classified as a Modification For Any Other Reason.

Although the rule addressing causes for modification includes other reasons specifically outlined in 40 C.F.R. § 122.62 as indicated or found by the Executive Secretary (Utah), the Mining Company's discharges do not fall under any of those reasons. Each reason is discussed below.

1. When the permittee has filed a request for a variance under Clean Water Act section 301 (c), 301(g), 301 (h), 301 (i), 301 (k) or 316 (a) (EPA 40 C.F.R. 122.62 (a)(5)) or R317-8-2.3, R317-8-2.7 or for "fundamentally different factors" within the time specified in §§ 122.21 or 125.27 (a) (EPA) or R317-8-3 or R317-8-7.7(8)a (Utah) (and the Executive Secretary processes the request under the applicable provisions).

This permit application was not filed as the result of request for variance, nor a variance based on fundamentally different factors for effluent guidelines (which for the indicated regulations and rules pertain to POTW sources). Mining Company is not requesting a variance from existing permit limitations because these discharges are not permitted. Because these discharges are not permitted, a permit modification is inappropriate.

2. When required to incorporate an applicable toxic effluent standard or prohibition (see §122.44 (b)) or under R317-8-4.2(2) (Utah).

The Mining Company's permit application was not filed in order to incorporate an applicable toxic effluent standard or prohibition under Toxic Effluent Standards and Other Effluent Limitations. According to the regulation a modification would be appropriate if the discharge contained toxics that were subject to toxics standards and guidelines. Because these discharges reportedly do not contain toxics, and there is no existing permit, a modification using reasoning from this subsection is unwarranted.

3. When required by the "reopener" conditions in a permit, which are established in the permit under 40 C.F.R. §122.44(b) (for CWA toxic effluent limitations and Standards for sewage sludge use of disposal (EPA) or R317-8-4.2(3) for toxic effluent limitations and standards for sewage sludge use or disposal (Utah).

The Mining Company's permit application is not being modified as the result of a "re-opener" condition in a permit for toxic effluent limitations or of sewage sludge use or disposal. The existing UPDES Permit does not contain a re-opener clause for toxic effluent or sewage sludge because the GSLM facility does not generate toxic effluent or sewage sludge. Because the existing permit does not contain a re-opener clause, the permit may not be modified for this reason.

4. Upon request of a permittee who qualifies for effluent limitations on a net basis under §122.45(g) (EPA) R317-8-4.3(8) (Utah), and,
5. When a discharger is no longer eligible for net limitations, as provided in §122.45(g)(1)(ii) and R317-8-4.3(8).

Neither reason 4 nor 5 is applicable to the Mining Company facility, and would not be considered a reason for a permit modification. 40 C.F.R.122.45 (g) (net credits) and R317-8-4.3(8) applies to industries that are subject to effluent limitations or standards imposed on internal waste streams before mixing with other waste streams prior to ultimate discharge. A modification for this reason would suggest that a permit was already in place for these discharges, which there is not. Moreover, "net credits" apply only to the intake and discharges into the same body of water. Mining Company has not provided any evidence to suggest that the concentration of pollutants in its Bear River Bay intake water is the same as that in the discharge. Although DWQ mentions that they find that there will be "no degradation" as a result of these discharges, that statement is completely unsupported and is not verifiable, as discussed in Section III above.

6. As necessary under EPA effluent limitations guideline, 40 C.F.R. 403.8(e) concerning compliance schedule for development of a pretreatment program.

The Mining Company permit application would not be considered a modification due to a compliance schedule for development of a pretreatment program. According to the effluent limitations guidelines for the Mining Company discharge, the limitation is zero discharge except for unused bitterns returned to the same body of water from which the brine solution was

withdrawn. 40 CFR § 415.162. There is no compliance schedule established for this effluent limitation guideline, and therefore is not a reason for a permit modification under the rules.

7. When the level of discharge of any pollutant which is not limited in the permit exceeds the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under 40 C.F.R. 125.3(c) or R317-8-7.1(2)(c).

The Mining Company permit application is not a modification because these discharges have never been analyzed or permitted. Since there is no analytical data about the discharges, it would be impossible to determine whether or not a pollutant existed in it that would exceed the level that could have been achieved by a technology-based treatment approach.

8. To establish a "notification level" as provided in 40 C.F.R. 122.44(f) and R317-8-4.2(6).

The Mining Company permit application was not required to establish a notification level required by an existing permit condition. The discharges in the Mining Company application have not been permitted and therefore do not qualify for the notification level threshold.

9. To modify a schedule of compliance to reflect the time lost during the construction of an innovative or alternative facility in the case of the POTW which has received a grant from EPA under section 202(a)(3) of the CWA for 100% of the cost to modify or replace the facilities. In no case will the compliance schedule be modified to extend beyond an applicable statutory deadline for compliance.

The Mining Company facility is not a POTW, and therefore, this reason for modification does not apply.

10. Upon failure of an approved State (the Executive Secretary in Utah) to notify an affected state whose waters may be affected by a discharge from Utah.

The Mining Company's discharges should not be considered a permit modification under this part of the rule because Great Salt Lake is a terminal lake within the State of Utah.

11. To correct technical mistakes, such as errors in calculation, or mistaken interpretations of law made in determining permit conditions.

The reason that Mining Company is required to secure a permit for its discharges is not due to a technical mistake (e.g., error in calculation or mistaken interpretation of the law made in determining permit conditions). These discharges have never been permitted, so there could not have been a mistake or error in establishing permit conditions.

12. When the discharger has installed the treatment technology considered by the permit writer in setting effluent limitations imposed under section 402(a)(1) of the CWA and has properly operated and maintained the facilities but nevertheless has been unable to achieve those effluent limitations. In this case, the limitations in the modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by a subsequently promulgated effluent limitations guideline).

Mining Company and DWQ cannot justify a permit modification under this clause because this part of the rule implies that a permit already exists and a modification of existing permit limitations is in order. The Mining Company discharges described in the permit application have not been previously permitted, and therefore this part of the rule does not apply.

13. When required by a permit condition to incorporate a land application plan for beneficial reuse of sewage sludge, to revise an existing land application plan, or to add a land application plan.

This part of the rule does not apply because the Mining Company discharges do not involve sewage sludge or land application.

Overall, it is apparent that a permit modification is not appropriate mechanism for the Mining Company discharges. Permit modifications are appropriate only when a discharge is already subject to permit limitations, but some of the limitations need to be modified for cause. This is not the case with the Mining Company discharges. These discharges have never been permitted or subjected to any type of limitation or condition whatsoever.

V. THE SAMPLING REQUIREMENTS IN THE DRAFT PERMIT ARE INAPPROPRIATE FOR THE MINING COMPANY'S INTERMITTENT DISCHARGE

The Draft Permit does not include sufficient monitoring requirements. The nature and extent of the required monitoring should be sufficient to determine the detrimental impact that the Mining Company discharges may have on receiving waters. Initially, the monthly sampling requirement noted in the Draft Permit is totally inappropriate for an intermittent discharge of this type. Instead, Mining Company should be required to sample during the actual discharges from each outfall. At a minimum, this sampling should be used to determine all contaminants that might be present, in addition to the amount of flow and other parameters.

More specifically, FRIENDS submitted comments to DWQ prior to publication of the Draft Permit that outline the specific monitoring protocol that should be required for these discharges. For convenience, a summary of that monitoring protocol is outline below:

A. Mining Company should provide specific information related to the discharge. This information includes the locations of all discharge points, as well as the times, duration, volume and rate of flow of the discharges. In addition, specific parameters

of the discharge must be collected. These include: temperature; Ph; salinity, TDS and conductivity; oil and grease; nutrients; BOD; mercury and methyl mercury; selenium (both total and dissolved) and other trace metals.

B. Mining Company must ascertain the hydrological fate of the discharge. There are several ways of accomplishing this but the most cost effective way would be to conduct instrument monitoring of Bear River Bay at three or four locations in an upstream direction above the Mining Company bridge to test for resistivity data. By configuring the resistivity cables properly, the instruments will be able to monitor the movement of saline plumes. Similar monitoring would have to be conducted during non-flushing periods to determine how the "natural" saline wedges from Great Salt Lake move into Bear River Bay.

C. Once the information outlined in B, hydrodynamic modeling based on the data collected must be used to provide detailed information on how the saline wedges are moving in the system. This model, once calibrated with the existing salt pond flushing data, could be used to simulate saline plume movement under various flushing scenarios and hydrologic conditions. In this way, low flow conditions could be simulated to better examine how the salt wedges might migrate. Instrument monitoring of temperature should be conducted in order to monitor plume movement. With sufficient temperature contrast between the salt pond water and the bay waters, continuous temperature monitoring via fiber optic cables placed along the bottom of the bay would be very cost effective.

D. Sediment sampling for mercury, methyl mercury and other trace metals must be conducted in central locations in Bear River Bay north of the discharge locations in representative sediment samples of the Bear River Bay evaporation ponds prior to flushing, and in selected sites at and downstream from the discharge locations (including south of the railroad bridge). Additionally, analysis of core samples taken from dike walls will be needed to determine the permeability of those structures. Finally, sampling for mercury, methyl mercury, selenium, and other traces metals should be conducted in selected bird species in Bear River Bay and south of RR causeway from birds taken during hunting. And,

E. An impacts analysis of salinity and DO levels at full range of depths in the water column should also be conducted. This testing, including characterization of phytoplankton and other biota in the water column (species composition and relative abundance, plus total biomass or other measure of productivity from before the discharges through the summer growing season), should take place: adjacent to existing evaporation ponds (range of locations); at a range of distances from all discharge points; south of RR bridge; and at specific control sites.

VI. DWQ MUST ALSO REGULATE THE OUTFALL FROM THE BEHRENS TRENCH INTO ITS BEAR RIVER BAY EVAPORATION RESERVOIRS

Both DWQ and Mining Company have neglected to address the discharge that occurs at the outfall where the company discharges concentrated Gunnison Bay water into its Bear River Bay evaporation reservoirs. This outfall is a point source discharge into a water of the United States and therefore is subject to the Clean Water Act and UPDES permit requirements.

40 C.F.R. § 122.2 includes in its definition of "water of the United States" for the purposes of the Clean Water Act "[a]ll impoundments of waters otherwise defined as waters of the United States under this definition."[18] Therefore, because they impound the waters of Bear River Bay, the Bear River Bay evaporation reservoirs are waters of the United States. As a result, DWQ must regulate the discharge from the Behrens Trench into the Bear River Bay reservoirs.

VII. DUE TO CRITICAL DEFICIENCIES IN THE PERMIT APPLICATION AND DRAFT PERMIT, AND THE ABSENCE OF PENALTIES TO ADDRESS PAST VIOLATIONS, THE PROPOSED CONSENT DECREE SHOULD BE WITHDRAWN.

The proposed consent decree is deficient in several respects, some of which are related directly to the deficiencies in the permit application and Draft Permit discussed above. As a result, the appropriate course is for the proposed decree to be withdrawn until the underlying deficiencies in the permit are addressed.

First, Mining Company has not brought itself into good faith compliance with the Clean Water Act and applicable EPA and state regulations because, despite the assertions in the proposed decree, it has not even submitted a valid permit application, as discussed above. Moreover, the proposed decree relies on Mining Company's voluntary cessation of discharge. However, because Mining Company has no need to discharge again until next year, this commitment is a meaningless gesture until a valid and complete permit is issued.

Second, the proposed Consent Decree is inadequate and inappropriate because of its complete failure to assess any penalties despite the Mining Company's many years of noncompliance with the Clean Water Act. The agency neither evaluates nor explains any of the factors identified in the statutes and regulations as appropriate to determining adequate penalties from a longstanding violation. For example, at a bare minimum, penalties should recoup the economic benefits that Mining Company may have reaped from its noncompliance. At this point, it is impossible to calculate what those benefits may have been until appropriate permit limitations are developed as addressed above. Those requirements establish the cost baseline against which economic benefits must be calculated, because they define the expenditures that Mining Company would have incurred had it complied with the Clean Water Act and had a valid permit.

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[18] While the definition exempts waste treatment systems from the definition of waters of the United States, the Mining Company's evaporation reservoirs do not treat waste.

Moreover, the proposed Consent Decree fails to account for any environmental harm from the violations, which are also an essential factor in a valid penalty assessment. Given DWQ's failure to evaluate the proposed effects of future discharges, or to require information in the application sufficient to make that determination, the agency cannot have evaluated the harm from the Mining Company's past violations in order to make an appropriate penalty determination. This failure is particularly notable given that other agencies have repeatedly identified the potential environmental harm from these discharges, warnings that have repeatedly gone unheeded.

Apparently, in deciding to assess no penalties whatsoever, DWQ is relying on its own unlawful representations to Mining Company that the flushing discharges did not require a UPDES permit. Although we acknowledge that the agency's position is relevant to the level of culpability to which Mining Company should be held for its violations, the company cannot simply rely on DWQ's "safe harbor" to avoid any penalties for its violations whatsoever. Mining Company is legally responsible for its own discharges, and has an independent duty to evaluate and ensure compliance with the law. Moreover, culpability is only one of many factors the agency is required to weigh in assessing appropriate penalties, and cannot be used to overcome economic benefits of noncompliance, environmental harm, and other relevant factors in the penalty assessment.

Conclusion

Thank you for this opportunity to comment on this Draft Permit. As always, we very much appreciate your willingness to consider our input and to work with us towards improving the water quality of Great Salt Lake.

Yours,

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