Stillwater Mining Company – Stillwater Mine, Nye
MPDES Permit Number MT0024716
Response to Public Comment

On May 15, 2023, the Department of Environmental Quality (DEQ) issued Public Notice MT-23-03. The Public Notice provided the tentative determination to issue a wastewater discharge permit renewal to Stillwater Mining Company for Stillwater Mine in Nye, Montana under the Montana Pollutant Discharge Elimination System (MPDES) permit MT0024716. The notice included the draft permit, Fact Sheet, and Environmental Assessment (EA). The notice required that all written comments be received or postmarked by June 15, 2023.

DEQ received written comments from three parties:

A. U.S. EPA Region 8 – Montana Office

B. Stillwater Mining Company dba Sibanye Stillwater

C. Good Neighbors - Northern Plains Resource Council and Cottonwood Resource Council

The Montana Department of Transportation reviewed the public notice materials and had no comments.

Two of the commenters requested that DEQ make clarifications and issue a revised Fact Sheet. DEQ considered this request and determined the issuance of a revised Fact Sheet to clarify information that would not result in changes to the draft permit is inappropriate without issuing a new public notice and draft permit.

DEQ has considered these comments in preparation of the final permit. A summary of the comments and DEQ's response follows. **This Response to Comments supplements the administrative record and supersedes the Fact Sheet to the extent specific changes to the permit or clarifications are discussed herein.** Full sets of comments are available upon request from DEQ.

Comments and Responses:

A. U.S. EPA Region 8

Comment A-1. Effluent limitations for total nitrogen (TN) may be expressed in units of concentration (Section 2.3 [page 9] of the draft permit). The NPDES regulations at 40 CFR § 122.45(f) require that effluent limitations be expressed in terms of mass unless one of three exceptions is met. One of the three exceptions is where applicable standards or limitations are expressed in other units of measurement. In this case, the applicable water quality criteria for TN are expressed in concentration units; therefore, EPA recommends that effluent limits for nutrients be expressed in units of concentration (e.g., mg/L) in addition to units of mass (e.g., lbs/day).

Response A-1: DEQ understands that mass-based limitations are not specifically required in this circumstance. Nonetheless, there are two reasons to maintain only a load-based limit for nutrient discharges from the Stillwater Mine. First, nutrients do not cause an immediate impact on the receiving waterbody. The growth of algae and the resulting negative impact on waterbodies takes time and tends to occur downstream of the site of discharge. Because nutrients

do not directly cause an acute or chronic toxic impact, load limitations will be protective of beneficial uses in surface waters. Second, as the facility is currently operated, there is a long lead time and dispersed nature for the pollutants reaching the surface water since they travel through groundwater for a long distance. Upon reaching the Stillwater River the effluent discharge is dispersed over a long reach of stream and mixing is nearly instantaneous, further reducing the need for a concentration-based limit. Likewise, if Outfall 001 is constructed the discharge will be through a diffuser, resulting in nearly instantaneous mixing.

No change is made to the draft permit in response to this comment.

B. Stillwater Mining Company (SMC)

Comment B-1. Given the complicated history and evolving future of nutrient regulation in Montana, it is acknowledged that future changes to the nutrient limit drafted in this permit might trigger the need for permit modification and/or use of a different approach to compliance, potentially including site specific standards, a variance, an Adaptive Management Plan, or other mechanism. SMC also notes that this permit provides a conservative approach to nutrient regulation because it presumes no attenuation of nitrogen as the effluent travels underground prior to discharge to surface water, but in reality, there is likely some attenuation occurring that lowers the nitrogen levels prior to discharging to surface water.

Response B-1:
DEQ agrees with the first sentence of the comment. DEQ could consider nitrogen attenuation as the effluent travels underground if presented with data or information that adequately characterized the degree of attenuation. Lacking that information, the approach taken in the permit and fact sheet is the most protective of the Stillwater River.

No change is made to the draft permit in response to the comment.

Comment B-2. Fact Sheet, pp. 5, 13, 23: The 2023 Fact Sheet provides a simplified summary of the fate and transport of the discharge to Outfalls 002 and 003 that implies the discharges are immediately adjacent to and discharge nearly directly to the Stillwater River. Section 3.4.1 of the renewal application provides a detailed description of the flow system associated with discharges to Outfalls 002 and 003. SMC requests that the 2023 fact sheet be revised to include some of the details of the flow system described in the permit renewal (see pp. 3-13 through 3-17). Specifically, SMC requests that the following items be included in the Fact Sheet:

a. Additional details about the location of outfalls 002 and 003 relative to the Stillwater River.
b. Description of the losing nature of the Stillwater River adjacent to Outfall 003.
c. Explanation that the discharge is of a diffuse nature as it discharges over about 3,700 feet reach of the Stillwater River.
d. Notation that since at least 1998, the discharge from outfalls 002 and 003 has been considered complete and instantaneous by surface water monitoring location SMC-11.
e. Notation in the Water Quality Assessment on page 23 of the Fact Sheet, that discharges to the Stillwater River from Outfalls 002 and 003 are equivalent to

complete mixing upon discharge to surface water.

f.

No change is made to the draft permit in response to this comment.

Response B-2: Figure 3-2 from the permit application, showing the locations of Outfall 002 (SVR Ponds), Outfall 003 (ES Perk Ponds 1 and 2), and the ground water flow direction, is attached to the end of this Response to Comments for reference.

Outfall 003 is located on a bench above the Stillwater River, approximately 550 feet from the river, on its east side. The latitude and longitude of the outfall is noted in the draft permit and fact sheet. While the outfall is located near the river, the direction of ground water flow and effluent flow path is parallel to, or slightly away from, the river due to the losing nature of the stream at this location (see Figure 3-2).

Outfall 002 is located approximately 3,000 feet northeast of Outfall 003. It is also on a bench above the Stillwater River on the east side, approximately 900 feet from the river. The river is gaining in the area downgradient of Outfall 002 and the direction of ground water flow, and effluent flow path, is towards the river.

Ground water discharges to the Stillwater River in the reach between the monitoring site designated as STWR-3 and the SVR Bridge.
While DEQ agrees that ground water discharges to the Stillwater River over approximately 3,700 feet, the exact interaction with the effluent and the ground water is not adequately characterized to state the effluent is diffused over this entire gaining reach. DEQ conducted the reasonable potential analysis for most parameters with the assumption that surface water quality standards would be achieved at the point where the ground water enters the surface water. Where surface water mixing was granted for the discharges from Outfalls 002 and 003, DEQ treated the discharge as instantaneous and complete mixing due to the likelihood that the discharge is diffused over some distance of the receiving water, rather than at a discreet single point.

No change is made to the draft permit in response to this comment.

Comment B-3. Fact Sheet, p. 21, 22: for outfalls 002 and 003, DEQ affirmatively states "Due to the hydrologic connection" surface water standards apply. SMC agrees that TBELS and WQBELs may be applied to groundwater discharges when those discharges are hydrologically connected to a surface water and the discharge is the functional equivalent of a discharge to surface water. However, it is SMC's understanding that a formal functional equivalent analysis has not been conducted for discharges from Outfalls 002 and 003 at this time. As such, it is suggested that language be included for discussions of Outfall 002 and 003 to the effect, "For this analysis, DEQ takes a conservative approach by presuming a hydrologic connection exists between ground and surface water sufficient to base WQBELs on surface water quality standards."

Response B-3: TBELs are the minimum treatment requirements that must be included in all

MPDES permits. ARM 17.30.1203.

The discharges from Outfalls 002 and 003 have long been treated as the functional equivalent of a direct discharge to the Stillwater River and have been permitted as such in previous MPDES permits. MPDES permits are for discharges to state surface waters and as such must consider the surface water quality standards. SMC's permit application states that the potentiometric data, synoptic monitoring, and area geology indicate that ground water mixed with effluent from Outfalls 002 and 003 discharges to the Stillwater River (pages 3-16 and 3-17).

No change is made to the draft permit in response to this comment.

Comment B-4. Total recoverable metals limits for Outfalls 002 and 003 are not appropriate as the suspended solids associated with total recoverable metals will be filtered out as the effluent migrates through the bottom of a percolation pond, through a >30 feet unsaturated zone, >750 linear feet of travel through alluvial sands, gravel, and cobbles, and finally through the streambed of the Stillwater River. The multitude of filtration steps between the percolation pond and the Stillwater River assures the metals that may be discharged to the river are of the dissolved fraction. This is a conservative assumption because the dissolved fraction of metals in the effluent are almost certainly attenuated in the unsaturated zone and within the groundwater aquifer. Therefore, SMC is requesting DEQ apply metal limits in the permit and fact sheet based on dissolved metals as opposed to total recoverable metals in the effluent given the multiple media that will filter out the suspended solids associated with the total recoverable fraction.

Response B-4: The surface water quality standards for most metals are total recoverable. ARM 17.30.1345(5) requires that all metals limitations in MPDES permits must be expressed as total recoverable unless the standard is adopted as dissolved (which is the case for aluminum).

No change is made to the draft permit in response to this comment.

Comment B-5. The monitoring requirements in the 2023 Draft Permit for Outfall 002 and 003 (page 8) are inconsistent with the 2023 Fact Sheet (page 41) with regards to the sample type for dissolved aluminum and total phosphorus, and are not consistent with statute. Apart from pH, SMC requests that the monitoring requirements for Outfall 002 and 003 be revised to require composite samples in the final permit and fact sheet to be in accordance with 40 CFR § 122.21, 136.3 and EPA Form 2C General Instructions for Reporting.

Response B-5: DEQ agrees with the comment.

The final permit will require composite samples for all parameters except pH at all monitoring locations for Outfalls 002 and 003.

Comment B-6. Monitoring requirements in the draft permit and associated fact sheet require

Total Kjeldahl Nitrogen (TKN) and Total Nitrogen (calculated). However, as shown by the data in the renewal package and associated addendum, TKN is often below detect and the use of it to calculate total nitrogen results in the total nitrogen being biased high when the detection limit is used as the concentration of TKN. It is our understanding that total nitrogen persulfate method is the Department's preferred method to determine the concentration of total nitrogen in water. SMC requests the monitoring requirements for effluent in the tables referenced above be revised to remove TKN and add total nitrogen persulfate method to provide a more accurate characterization of total nitrogen in the effluent.

Response B-6: The persulfate method is used primarily to characterize surface waters and is not a 40 CFR 136 approved method for monitoring wastewater effluent. MPDES discharge monitoring requires the use of approved methods. If SMC wishes to switch to the persulfate method for effluent monitoring they may submit an Alternate Test Procedure application, subject to review and approval by the EPA.

The persulfate method may be used at the sites RIVA and RIVB and the monitoring table for these sites will be amended in the final permit to reflect this.

Comment B-7. The "2020 303(d) List" discussion beginning on page 15 of the fact sheet should clarify that the "permitted hardrock mining discharges (SMC)" are only listed as a nonconfirmed source for nitrate plus nitrite and not for any of the other parameters for which the Stillwater River is impaired. The SMC permitted discharge is not listed as a confirmed source for any listed parameter. Additionally, it should be noted that the SMC permitted discharge complies with section 75-5-703(10)(a), MCA because it complies with nondegradation provisions, it will not cause a decline in water quality for parameters for which the water body is impaired; and it meets the minimum treatment requirements adopted pursuant to section 75-5-305, MCA.

Response B-7: The referenced fact sheet discussion is a summary of information provided by the DEQ Monitoring and Assessment and TMDL sections and was sourced from the Clean Water Act Information Center on DEQ's website. It is possible for a permitted discharge to be listed as source contributing to an impairment even though they are in compliance with the conditions of the permit, especially in cases where a TMDL has not yet been developed. SMC's permitted discharge is in compliance with the nondegradation provisions as reflected elsewhere in the permit Fact Sheet.

No change is made to the draft permit in response to this comment.

Comment B-8. On page 32 of the Fact Sheet, Section 2.3.2, please add discussion regarding the removal of nickel and silver WQBELs for outfall 001.

Response B-8: Nickel and silver should have been included in first bullet point of the anti-backsliding analysis, which should have read:

Effluent limitations for aluminum, total ammonia, nitrite plus nitrate, and total recoverable chromium, nickel, and silver are removed from the permit. Improved characterization of upstream water quality and significant improvements to the treatment system resulted in no RP for these parameters. Relaxing the limitations is consistent with the anti-backsliding regulations at 40 CFR 122.44(l).

No change is made to the draft permit in response to this comment.

SMC Comments on the Environmental Assessment

Comment B-9. Page 1, the "Description of the Project" would benefit from specifically citing to the Permit and Fact Sheet for additional details about water sources, treatment and discharges regulated by the Permit.

Response B-9: DEQ will add a sentence stating "See accompanying permit and fact sheet for effluent limits, monitoring requirements and compliance requirements."

Comment B-10. Page 1, the "Benefits and Purpose of the Proposal" section should note that in addition to compliance with water quality standards, this Permit also ensures compliance with the minimum treatment requirements of the CWA and Montana WQA. Additionally, it should be noted that renewal of the Permit enables seamless continuation of the mine, avoiding operational disruptions, uncertainty, and regulatory delays.

Response B-10: DEQ declines to make this change. The fact sheet and permit describe the points regarding the CWA and Montana WQA. The purpose of the permit is to protect beneficial uses in the receiving water. The administrative continuation process provides for the other aspects mentioned in the comment, which do not rely entirely on the permit renewal.

Comment B-11. A "no action" alternative should be considered, noting that if the permit is not reissued, the mine would cease discharge to our MPDES outfalls and likely send treated water to the Hertzler Ranch Land Application Disposal system, Hertzler percolation ponds, and/or the Underground Injection Control (UIC) well at the Benbow Portal. SMC has limited disposal capacity at these two facilities, which may result in the need to scale back mine development. This limitation in turn may result in lost jobs, economic losses to the local communities, lost taxes to the county and state, and global impacts by failing to satisfy the world's need for platinum and palladium. The continuation of good-paying jobs, tax payments, and hard rock impact fund payments should also be noted in items #13, 14, and 21.

Response B-11: DEQ appreciates the comment and the importance of the mine to society and believes that the disclosure that there were no reasonably available and prudent alternatives to consider is accurate and acceptable. DEQ may only deny or terminate a permit for cause, as listed in ARM 17.30.1363. DEQ will revise the alternatives considered section of the EA, to match that included in the draft EA for the East Boulder Mine permit (MT0026808), which reads:

"A permit may only be denied or terminated for cause as provided in ARM 17.30.1363. Cause for termination include: noncompliance by the permittee with any permit condition; the permittee failure in the application or during the permit issuance process to fully disclose all relevant facts, or the permittee's misrepresentation of any relevant facts at any time; a determination that the permittee's activity endangers human health or the environmental and can only be regulated to an acceptable level by permit modification or termination; or a change in any condition that requires either a temporary or a permanent reduction or elimination of any discharge controlled by the permit. None of these situations are applicable."

Comment B-12 Where the EA states "no changes," please clarify that there will be no changes as a result of this Permit renewal. For Item 20, please add that SMC is in compliance with local ordinances, resolutions and plans.

Response B-12: DEQ agrees to make the requested changes in the final EA with the caveat that to the best of DEQ's knowledge SMC is in compliance with local ordinances, resolutions, and plans.

Comment B-13 For items 6 and 7, consider stating whether the resources listed, such as threatened species and scenic rivers, are present or not. For item 8, no new or changed land uses will occur as a result of this Permit renewal.

Response B-13: The statement in the draft EA is an accurate reflection of the site. The facility has existed for many years and reissuing an existing MPDES permit is not expected to create new impacts related to the site, regardless of the current presence or absence of the listed resources. The requested clarifications are unnecessary.

Comment B-14. Where the EA notes that the "facility is long established at this site" consider also noting that no new construction is anticipated as a result of this Permit renewal.

Response B-14: DEQ cannot state that no new construction is anticipated at an active mine site. The statement that no new impacts are expected with the renewal of this existing discharge permit is accurate.

Comment B-15 On page 4, consider expanding the "summary of potential effects" to explain that the Permit renewal contains limitations and conditions to ensure compliance with the WQA, which ensures protection of all surface and groundwater beneficial uses; therefore, no adverse effects are expected from the renewal of this Permit. For cumulative effects, please note that there are no additional projects or impacts creating any cumulative effects.

Response B-15: DEQ agrees to make the requested changes to the final EA.

Editorial Comments – Fact Sheet

Comment B-16 Fact Sheet, Page 4, Section 1.2.2 states, "Mine water from inactive mine

workings, the East Side Line, is currently discharged to ground water without treatment." Propose to modify subject to, "Mine water not impacted from mine activities are currently discharged to Outfalls 2 and 3 without treatment."

Response B-16: The statement in the fact sheet is accurate. DEQ finds that the descriptive phrase "from inactive mine workings" is more representative of the nature of this waste stream since the water flows from and through mined areas that were previously impacted by mining activities, but are now inactive.

No change is made to the draft permit in response to this comment.

Comment B-17 Fact Sheet, Page 4, Section 1.2.2 states, "After clarification, mine waters enter the oxygen enriched MMBR cells where ammonia is nitrified to nitrate, followed by denitrification in the BTS where methanol is added to enhance the denitrification process." SMC does not currently use nitrifcation; however, they do have the capability to use MMBR or BTS cells for nitrification in the future. The description of the Water Treatment System in Section 3.1.5 of the permit renewal is a more accurate description of how the water treatment plant may be used. SMC requests that the department modify the description of the water treatment plant similar to the language below:

"The MBBR and BTS cells may be used as nitrification cells (conversion of ammonia to nitrate) and/or denitrification cells (conversion of nitrate to nitrogen gas), depending on operational needs."

Response B-17: DEQ agrees with this clarification. The comment is incorporated into the record.

No change is made to the draft permit in response to this comment.

Comment B-18 Fact Sheet, Page 4, Section 1.2.2, last sentence, this sentence suggests that the lined storage ponds are temporary, therefore SMC proposes that the Fact Sheet be revised as follows (edits are shown with strikethrough or underlined): "After treatment, wastewater is routed to a lined ~~temporary~~ storage pond prior to being routed to either the ~~the~~ Hertzler..."

Response B-18: The clarification is noted. The intent of the statement in the fact sheet was to point out that the wastewater is stored temporarily prior to being routed elsewhere for final dscharge/disposal.

No change is made to the draft permit in response to this comment.

Comment B-19 Fact Sheet, bottom of p. 23 for "Passage of aquatic organisms": outfalls 002 and 003 indicate "minimal blockage expected," However due to the nature of the discharge being over such a long reach of the river and being of a diffuse nature with instantaneous

mixing there would be no blockage of aquatic organisms. SMC requests that the Fact Sheet be revised to state that there will be no blockage of aquatic organisms for Outfalls 002 and 003.

Response B-19: DEQ agrees with the comment, which is incorporated into the administrative record here.

No change is made to the draft permit in response to this comment.

Comment B-20 Permit, p. 15 (Special Conditions): Fact Sheet, p. 5 indicates that DEQ must approve the diffuser before it is put into operation, but that does not carry over into a formal special condition of the Permit. To assure this requirement is understood by the permittee and the public, SMC requests that the requirement for DEQ to approve the diffuser before it is put into operation be added to the Special Conditions in the Permit.

Response B-20: DEQ agrees to make this change to the draft permit. New section 3.1.2 is added to the permit Special Conditions as follows:

"Before constructing Outfall 001, the permittee shall submit outfall and diffuser design plans and specifications to DEQ for review and approval. Written approval must be received from DEQ prior to commencing construction"

Comment B-21 Fact Sheet, Table 3.A.3: The reported "maximum daily" concentration of 12.5 mg/L for TKN appears to be an error as the maximum concentration provided in the effluent data provided with the application addendum is 4 mg/L. SMC has also reviewed the TKN concentrations of SMC-9A and SMC-16 in our database and did not find a TKN concentration of 12.5 mg/L. SMC requests that DEQ review the TKN values in Table 3.A.3 and correct them as warranted.

Response B-21: DEQ reviewed the TKN values used in the fact sheet and determined the maximum value for TKN during the period of record was 4.0 mg/L. The 12.5 mg/L value in Table 3.A.3 is an error. This error does not result in a change in permit requirements but is noted here for the record.

No change is made to the draft permit in response to this comment.

C. Stillwater Protective Association and Northern Plains Resource Council ("the Councils") and Zuzulock Environmental Services LLC ("ZES") on behalf of the Councils.

Comment C-1. The 2023 draft Fact Sheet includes a Water Quality Assessment and discussion of cumulative effects (page 24); however, this does not include a description of nonpoint source contributions of total nitrogen to groundwater from waste rock leachate at the Stillwater Mine. This discharge is described in the record for Stillwater Mine's Operating Permit (#00118), where on August 25, 2022 DEQ issues a letter resolving violations issued related to exceedance

of nitrate+nitrite water quality standards in groundwater at the Stillwater Mine. Violations to groundwater quality standards are resolved with ongoing corrective actions as described in an Administrative Order on Consent (AOC) finalized August 2022 between Stillwater Mining Company and DEQ; and associated Groundwater Compliance Work Plan, Stillwater Mine Nye ESWRSF Area (approved with Minor Revision 22-003 on July 15, 2022*).*The assessment of cumulative effects and impacts to water quality continues to be a concern for the Councils. In this case, the two sources of nitrogen to groundwater (percolation of treated mine water and nonpoint waste rock seepage) at the mine facility cannot be separated nor distinguished in the aquifer and both report to the Stillwater River.

DEQ should include a description of cumulative effects to groundwater and surface water from nonpoint source nitrogen leachate regulated in the Operating Permit as part of the 2023 Fact Sheet. DEQ should further describe the active AOC and ongoing corrective measures implemented by Stillwater Mine to minimize nonpoint source nitrogen loading to groundwater including lining of the waste rock pile to capture nitrogen seepage, *in situ* methanol injection into groundwater to stimulate biological nitrogen reduction, and groundwater characterization to define impacted areas and optimize corrective measures.

Response C-1: The nonpoint discharge of nitrate+nitrite (N+N) to ground water from the East Side Waste Rock Storage Facility (ESWRSF) is regulated under the mine's Operating Permit (#00118). The MPDES permit regulates the point source discharges of the mine's wastewater. The reasonable potential analysis for the MPDES permit showed the facility did not have reasonable potential to exceed the ground water and surface water standards for N+N at the point of discharge without consideration of dilution in the receiving waters.

As stated in the comment, SMC entered an Administrative Order on Consent (AOC) with DEQ on August 5, 2022 to correct exceedances of N+N water quality standard observed in compliance monitoring wells located between the operating permit boundary and the Stillwater River. As part of the AOC, SMC developed a compliance plan that includes the installation of more ground water monitoring wells, treatment of ground water by various means, and a commitment to achieve the water quality standard in the compliance monitoring wells.

Given that the MPDES discharge is well below the water quality standard for N+N in both ground water and surface water, the discharge of total nitrogen is limited to achieve an acceptable total nitrogen load from all MPDES outfalls, and the Mining Bureau Operating Permit requires the achievement of the N+N standard at (or near) the operating permit boundary in ground water prior to entering the Stillwater River, the water quality standards are protected in the ground water and the Stillwater River. Cumulative effects are expected to be minimal.

No change is made to the draft permit in response to this comment.

Comment C-2. The 2023 Draft Permit renewal maintains mixing zones for groundwater and surface water established in the current permit. The draft Fact Sheet (page 5, 21) describes the

mixing zones applied in the permit; however, the mixing zone calculation used does not reflect site-specific hydrologic conditions.

The draft Fact Sheet (page 21) describes application of the standard mixing zone depth of 15 feet as specified by ARM17.30.517. This effectively minimizes the volume of groundwater influx applied for determination of reasonable potential and permit effluent limits. In practice, the groundwater dilution could be much greater than assumed in this renewal, as supported by groundwater monitoring and measurements of mine influenced water in groundwater wells at depths from roughly 10 to 80 feet below ground surface, where a deeper mixing zone would imply more mixing due to a larger cross-section of groundwater for mixing with mine discharge waters (point and nonpoint).

There appears to be additional groundwater added to the groundwater flux utilized for mixing in comparison to what is applied in the permit mixing zone assumptions. Synoptic studies have shown the increase in flow over a 3,700 foot stretch of the Stillwater Rivers, which also exceeds assumptions used for the mixing calculations for the permit.

DEQ should consider revision of the Fact Sheet to include an expanded discussion of site-specific mixing zone conditions, as supported by recent synoptic surveys and groundwater characterization information provided by SMC in their 2020 renewal application.

Response C-2: SMC requested that the ground water mixing zones in the 2015 permit be maintained in this permit renewal. For the ground water mixing zones, DEQ agreed to this request and used ground water flux values that were used in the 2015 permit. See also the Response to Comment B-2. Fact sheets are not revised during public comments unless DEQ finds that substantial new questions are raised per ARM 17.30.1376. The issues raised here do not rise to that level.

No change is made to the draft permit in response to this comment.

Comment #C-3. Section 1.2.2 of the draft Fact Sheet (page 4) describes the wastewater treatment system for Stillwater Mine. The Fact Sheet States “After clarification, mine waters enter the oxygen enriched MMBR cells where ammonia is nitrified to nitrate, followed by denitrification in the BTS where methanol is added to enhance the denitrification process." This statement is inaccurate as drafted. Stillwater Mine’s MBBR cells are capable of both nitrification and denitrification, however the system is currently operated using denitrification to reduce nitrogen concentrations prior to discharge.

Second, operation of the BTS is optimized with additions of methanol, phosphoric acid, and sulfuric acid for both pH adjustment and supplements to improve treatment efficiency. Section 1.2.2 of the draft Fact Sheet also states, “After treatment, wastewater is routed to a lined temporary storage pond prior to being routed to either the ~~the~~ Hertzler Ranch LAD or the outfalls described in this MPDES permit.” The Councils suggest revising this statement to clarify that treated mine water routed to the Hertzler Ranch is discharged through percolation ponds and/or Land Application Disposal (LAD) as authorized in the Operating Permit.

DEQ should revise the Fact Sheet to accurately describe the wastewater treatment system at Stillwater Mine.

Response C-3: See the response to Comment B-17.

No change is made to the draft permit in response to this comment.

Comment C-4. The draft Fact Sheet Section 1.2.3 Discharge Points, compares the projected average and maximum flows for each permitted Outfall in SMC's application (Form 2C) and provides a comparison to actual flow conditions as reported in the Discharge Monitoring Reports (DMR) from March 2021 to December 2022. The discussion for Outfall 002 and Outfall 003 shows that the maximum flow rates to these outfalls exceeds the applied for maximum, while the reported average flows are lower than discharge rates applied for.

DEQ should update the text in this section to describe how this flow rate comparison is used in the determination of permit limits, and consider presenting the data comparison in a format similar to Table 2 of the draft 2023 Fact Sheet for East Boulder Mine MPDES renewal (MT0026808).

Response C-4: As shown in the Fact Sheet table "Sources of Wastewater Contributing to Each Outfall," DEQ used the average flow reported in the permit application (Form 2C), as the basis for effluent limits in the draft permit. The use of average flow is appropriate for Outfalls 002 and 003 because the discharge is through the ground and by the time the effluent reaches the receiving surface water, effluent concentrations and flow are expected to be near the average condition. The comparison of flows is discussed in the narrative of the Fact Sheet. The use of the average flow is representative of the nature of the discharge and accounts for the variability shown between the actual average, maximum 30-day average, and maximum daily flows reported on the facility Discharge Monitoring Reports.

No change is made to the draft permit in response to this comment.

Comment C-5. The 2023 draft Permit and Fact Sheet does not discuss the operation of Stillwater Mine's septic system and drainfield, while the septic system at East Boulder Mine is identified as a specific outfall in their MPDES permit (MT0026808).

DEQ should update the Fact Sheet to describe the septic system at Stillwater Mine, including a discussion on how this facility is operated, maintained and regulated.

Response C-5: The Stillwater Mine's septic system discharge is not listed on the MPDES permit application as an outfall. At the East Boulder Mine, the septic system is listed as an MPDES outfall, and is included in the Fact Sheet and permit (MT0026808). The septic system at the Stillwater Mine is regulated by the mine's Operating Permit (#00118). The septic discharge is routed to the Hertzler Ranch site for disposal there. Occasionally, during maintenance activities, the septic discharge is routed to an onsite drainfield that is on the west side of the

Stillwater River and does not commingle with the MPDES permitted outfalls on the east side of the river.

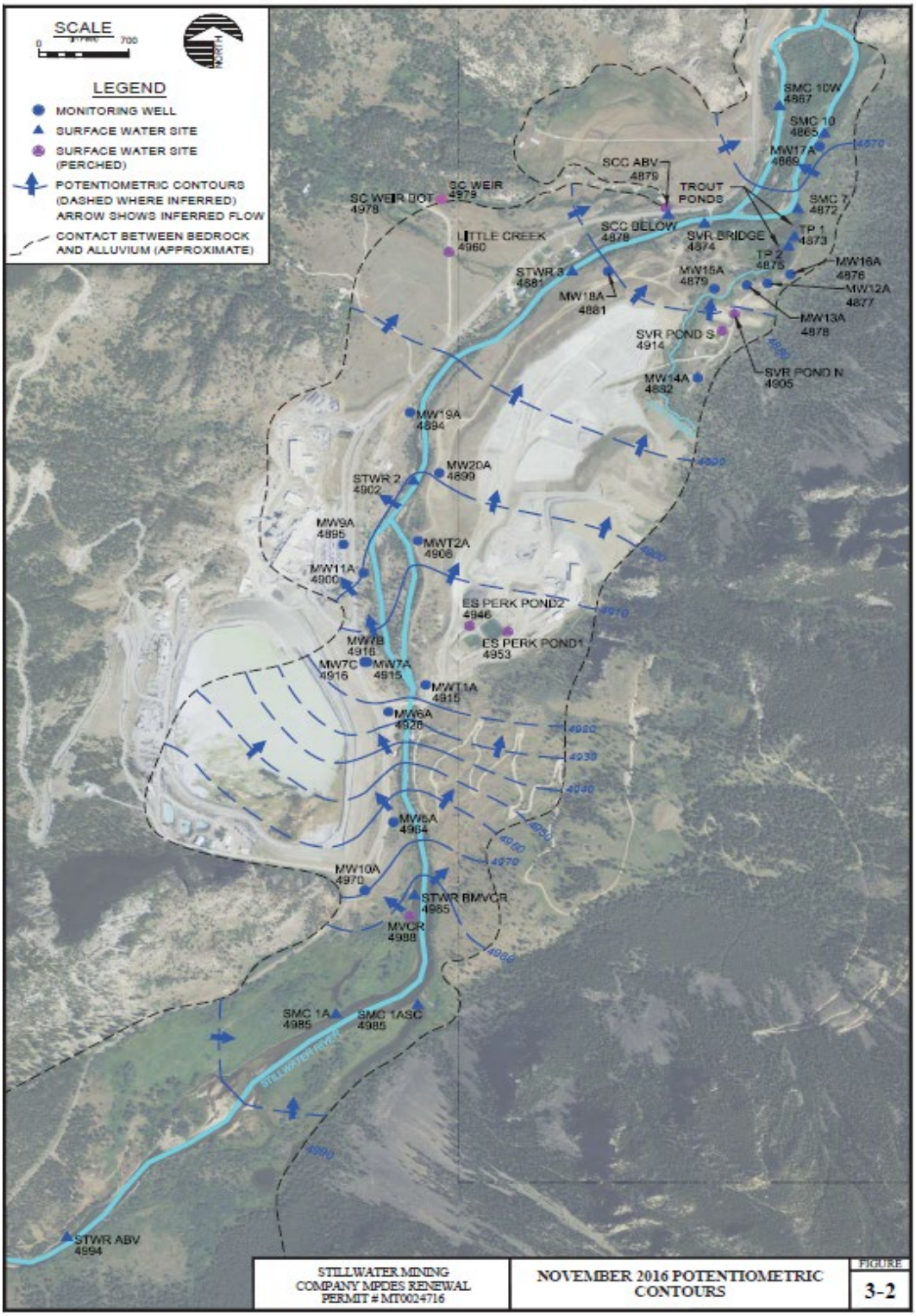
No change is made to the draft permit in response to this comment.

Comment C-6. The draft Fact Sheet (page 13) summarizes the beneficial use determinations for the Stillwater River, and the Water Quality Assessment (page 23) concludes that "The limited surface water mixing zones, after dilution and transport in the ground water, granted for Outfall 002 and Outfall 003 will protect beneficial uses in the Stillwater River."
The Councils would like to see DEQ update the beneficial use assessment determinations for sections of the Stillwater River potentially impacted by Stillwater Mine discharge waters with more recent water quality and aquatic ecology assessments completed in this watershed. DEQ's 2020 Water Quality Standards Attainment Record assessment for Stillwater River section MT43C001_020 does not include references to any data reviewed to conclude this section is not fully supporting beneficial uses for aquatic life and drinking water. Stillwater Mining Company has collected water chemistry and physical conditions data (at least three times a year), and completed biological monitoring assessments (at least annually) since 1998 that should be considered in making this determination.

Response C-6: The comment is outside the scope of the permit. The WPB has forwarded the request to the DEQ Water Quality Planning Bureau.

No change is made to the draft permit in response to this comment.

Permit Application Figure 3-2


SCALE
0
700
NORTH
LEGEND
MONITORING WELL
SURFACE WATER SITE
SURFACE WATER SITE (PERCHED)
POTENTIOMETRIC CONTOURS (DASHED WHERE INFERRED) ARROW SHOWS INFERRED FLOW
CONTACT BETWEEN BEDROCK AND ALLUVIUM (APPROXIMATE)
SMC 10W 4867
SMC 10 4865
MW17A 4869
SCC ABV 4879
TROUT PONDS
SC WEIR 4979
SC WEIR DOT 4978
SMC 7 4872
LITTLE CREEK 4960
SCC BELOW 4878
SVR BRIDGE 4874
TP 1 4873
TP 2 4875
MW16A 4876
MW15A 4879
MW12A 4877
STWR 3 4881
MW18A 4881
MW13A 4878
SVR POND S 4914
SVR POND N 4905
MW14A 4882
MW19A 4894
MW20A 4899
STWR 2 4902
MW9A 4895
MWT2A 4906
MW11A 4900
ES PERK POND2 4946
ES PERK POND1 4953
MW8 4916
MW7C 4916
MW7A 4915
MWT1A 4915
MW6A 4926
MW5A 4964
MW10A 4970
STWR BMVCR 4985
MVCR 4988
SMC 1A 4985
SMC 1ASC 4985
STILLWATER RIVER
STWR ABV 4994
STILLWATER MINING COMPANY MPDES RENEWAL PERMIT # MT0024716
NOVEMBER 2016 POTENTIOMETRIC CONTOURS
FIGURE
3-2