

EXTERNAL MEMORANDUM

To: Ms. Roberta Hudson
SD DANR, Minerals & Mining
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From: Mr. Ken Nelson
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Coeur Wharf
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Date: October 5, 2022

Subject: Response to August 2022 DANR Comments on Wharf's Boston Expansion Large Scale Mine Permit

Wharf submitted a Large Scale Mine Permit to the South Dakota Department of Agriculture and Natural Resources (SD DANR) on June 13, 2022. Procedural completeness and technical comments were received from SD DANR in two letters dated July 13, 2022 and August 16, 2022. This response to comments memo specifically addresses comments from the August 16, 2022 letter. Wharf responses are in red.

Wharf is currently finalizing comment responses for the July comments letter and will submit that response along with the revised large scale mine permit application report and attachments upon completion. The revised application report and attachments are intended to address comments from both letters. To expedite review, revisions to the baseline sound, surface water, and groundwater reports are attached to this response.

Procedural Completeness Comments

1. SDCL 45-6B-40 and ARSD 74:29:07:07(2, 3, 4, 6, 7, and 8): In the last paragraph of Section 3.2.1 on page 29 of the Introduction to Soils in the Baseline Section, it states that 28,383 cy of topsoil is salvageable from the Boston Expansion area which is based on an average salvage depth of 4.38 inches over the proposed 48.2-acre disturbed area. However, the Soil Survey in Appendix E states that 29,275 cy is salvageable which is based on filed and other results. It appears that the salvage estimate in the Soil Survey should be more accurate than the estimate in Section 3.2.1. Therefore, please clarify the actual amount of topsoil that is available for salvage.

The soils survey report provided in Appendix E was prepared prior to Wharf finalizing project disturbance areas and was based on a preliminary disturbed area of 49.75 acres versus the actual proposed acreage of 48.2 acres. The same average salvage depth determined by BKS was applied to the correct disturbance acres. Therefore, the amount of topsoil available for salvage discussed in the body of the Large-Scale Mine Permit application is correct.

2. SDCL 45-6B-39 and ARSD 74:29:07:06: Stan Michals of the Department of Game, Fish, and Parks reviewed the "timed meander" methodology on pages 63 and 64 of the 2021 Baseline Vegetation Assessment included as Appendix I in the mine permit application. He said that the Department of

Game, Fish, and Parks requested Wharf to follow the protocols from Goff, Dawson, and Rochow to identify rare plant species occurrence in the Boston Expansion area. He added that the timed meander methodology was clearly presented in Goff et al., but Wharf or its consultant BKS did not ask him for clarification of the method. BKS does generally discuss the timed meander methodology on pages 63 and 64 of the Baseline Vegetation Assessment, but it does not discuss findings or include other timed meander species data. Also, there is no data/finding reference to the timed meander method. Specifically, a species effort curve and a species list prescribed by Goff et al. is absent from the assessment. The information requested by Mr. Michals is required before the Baseline Vegetation Assessment can be considered complete. It also needs to be discussed in Section 3.6.3 of the Baseline section of the mine permit application.

The data and findings illustrated in the summations of the 2021 Critical Habitat and Special Status Plant Species Report were based on Goff et al. and was collected during the June 2021 field survey. During the June 2021 special status plant species survey BKS followed the methodology described in the sample plan, which was a general approach following Goff et al. but not an exact replication of the Goff et al. methodology. Timed meander species point data was included as an attachment in Appendix I submitted in June 2022. The species effort curve and timed meander species list prescribed by Goff et al. have been added to Appendix I and noted in Section 3.6.3 of the mine permit application.

3. SDCL 45-6B-92(9): In the third paragraph of Section 3.10.2, RESPEC lists dates (July 13, 20, and 28, 2021) when it used handheld instruments to monitor sound. Please provide a more detailed explanation on why these dates were chosen. This section was also not updated to include information from the May 3, 2022, monitoring event and any new information from the new monitoring station SND-07. Please include the information in this section. In addition, in Appendix A of the Baseline Sound Study, photos were included for all monitoring stations except SND-07. A photo of SND-07 must be included in the Appendix.

The original dates for RESPEC's sound survey (July 2021) were chosen based on RESPEC staff availability, site access, and to coincide with periods of mine activity, including a blast event. A summer survey also was suspected to represent the noisiest time of the year because of increased tourist traffic and ATV usage. Based on production, most mine noises are likely similar year-round, though may also be increased during summer months due to increased reclamation activities in the summer. Further, the last sound survey by Kliche [2010] was performed over the summer months. The additional survey in May 2022 was conducted as soon as feasible after DANR staff requested an additional survey location in Lost Camp be added to the study.

Section 3.10.2 in the LSMP document has been updated. The photograph taken at SND-07 was corrupted and RESPEC does not have a photograph of this location. The absence of this photograph does not impact the results of the sound analysis or results, and a map of the location shows that this location is at the intersection of two roads in a wooded area typical of the Lost Camp subdivision.

Also, Section 3.2 of the Baseline Sound Study in Appendix M indicates RESPEC conducted sound monitoring at each of its monitoring points for an approximate ten minute period during five monitoring events over four separate days. Since the ten minute monitoring time frame over a period of only four days seems like a very short time frame for a sound study, please provide justification regarding why this methodology accurately represents sound from various mining impacts such as back-up beepers, blasting, and mine traffic throughout the year. Also, please explain how those sounds may be impacted by various weather-related incidents such as fog, low-

hanging clouds, and temperature and explain how the sound study can effectively account for these potential impacts.

The monitoring periods during RESEPC's sound study were selected as representative time intervals or samples of current (pre-Boston Expansion) sound at receptors surrounding the mine area, specifically sounds within the Lost Camp Subdivision. The nominal 10-minute monitoring period was chosen by RESPEC in an effort to follow the methodology of the sound study conducted by Kliche [2010]; monitoring conducted by Apa [1993] were conducted for discrete periods of 18 minutes.

RESPEC's survey intentionally targeted a blast event and daytime periods of known mine activity but in no way purports that the 10-minute sampling intervals captured all sounds from all mining impacts at all times. RESPEC's sound study was conducted to supplement Wharf's sound data, which is continuous year-round sound monitoring. RESPEC's study was also intended to serve as third party verification that Wharf's sound meters were adequately representing local noise levels.

Sound measurements are minimally impacted by various weather conditions that affect sound propagation. For instance, a temperature decrease raises the noise level at a receptor and humidity decrease lowers the noise. When windspeeds are high, a receptor standing downwind of the source will hear noise louder than a listener standing upwind of the source. These increases or decreases are most impactful to receptors 0.5 mile from the source but are within a 3 dB range, or barely detectable to the human ear. For receptors closer to the noise source, the affects of weather are insignificant. For the vast majority of outdoor sound measurements, the weather itself (wind) creates more noise than the influence it has on sound wave propagation. [Attenborough et al, 2006]

Attenborough, K., K.M. Li, and K. Horoshenkov, 2006. Predicting Outdoor Sound. 456 pages.

Also, Section 3.10.2 of the Baseline Section and Section 3.1 of the Baseline Sound Study indicate that Wharf established two fully automated remote sound monitors and began collecting data on April 20, 2021. Data for the baseline study was collected from April 20, 2021, to July 27, 2021, and April 24, 2022, to May 8, 2022. Why did Wharf select these data periods and why wasn't any data analyzed in the fall and winter months?

For the initial sound report, 3 months of Wharf's continuous data from 2021 (i.e., April 20, 2021, through July 27, 2021) and 2 weeks of data from 2022 (April 24, 2022, through May 8, 2022) were reviewed and analyzed. RESPEC selected these data periods to coincide with and overlap the dates in which RESPEC conducted sound monitoring. RESPEC engineers deemed the monitoring periods for review of Wharf sound data adequate to understand general sound conditions. However, based on DANR's comment, RESPEC conducted additional review including review of data from two additional periods to cover sound in the fall and winter months (Oct 1-15, 2021 and Jan 1-15, 2022). Data from those additional periods are similar in magnitude and sound source to that previously reviewed. That additional data has been added to the baseline sound report.

Finally, in Section 5.0 of the Baseline Sound Study, impacts to receptors in the Lost Camp development need to be addressed.

The following text has been added to Section 5.0. Also see Section 3.10.3 Noise Mitigation Strategies in the Large Scale Mine application.

Sound decreases with distance from the source and is primarily influenced by topography and line of sight. There are minimal areas south of Wharf or within the Lost Camp subdivision where there is a line of sight of the Boston Expansion area. Locations at greater distance from mining activity are further protected by physical barriers such as trees and vegetation, ridges, and buildings.

Most residents can expect mining noises to continue at present levels and the Boston Expansion will not increase their current noise levels. The closest few residents in the northwestern-most corner of the subdivision nearest the Boston Expansion could expect temporary increases in mining noise associated with vegetation removal, berm construction, and initial blasts at the top of the ridgeline in the Boston Expansion area. After the upper benches are complete noise levels are expected to return to near-present conditions.

4. ARSD 74:29:02:03: Please submit a map showing the names of all mining claims listed in Appendices C-1, C-2, and C-3.

Surface ownership listed in Appendix C-3 is shown on Exhibit 4 in Appendix B. A map showing the names of all Boston Expansion mining claims listed in Appendix C has been added to the application.

5. ARSD 74:29:02:04(6): In the last paragraph on page 73 of Section 5.3.5, RESPEC states it reviewed and verified 105 data points for blasting operations in the Flossie, Sunshine, and Portland Pits according to industry standards. Please include additional information on industry standards and a reference for them.

Also, in the last paragraph on page 74 of this section, please address NO_x concentrations in post-blast clouds.

A reference to the industry standards (Siskind et al, 1980) has been added. Additional text about blasting fumes have been added to Section 5.3.5.

6. ARSD 74:29:02:06: In the last sentence of the second paragraph of Section 3.9, Wharf mentions the summary of the regional ethnology that was included in the Request of Determination of Special, Exceptional, Critical, or Unique Lands. Since this summary was not considered confidential for the Request for Determination, it should be included in Appendix L, and the last sentence should be modified to reflect this.

As requested, the regional ethnology summary that was provided in the Request for Determination has been included in the public version of Appendix L and the callout has been updated.

7. ARSD 74:29:02:11(1) Section 3.5.5, Meteorological Stations, page 41 and Appendix H, Meteorology: In Section 3.5.5 (Meteorological Stations) and Appendix H, please include 2021 meteorological data in the baseline analysis. Also, please explain why data was only analyzed over a six-year period. Additional data from years prior to 2015 would provide a better baseline analysis of temperature, precipitation, and other meteorologic trends at the mine.

Six years of meteorological data (2015-2020) was analyzed for the Boston Expansion. The original meteorological characterization report was published in August 2021 when data for all of 2021 was not yet available. The report was included in early versions of the Request for Determination, which was also first submitted in 2021. Revisions to the report, including the last revision in April 2022, included the same set of data and updates based on previous DANR comments.

While some weather stations have additional meteorological data available, the 6-year period of data was deemed sufficient by RESPEC staff to characterize the current meteorological conditions at the site for use in developing a meteorological plan and understanding the hydrologic system for the small Boston Expansion. Similarly, 5 years of data (2005-2009) was reviewed as part of the last permit.

8. ARSD 74:29:07:02(3): In the second paragraph on page 57 of Section 3.11, Wharf needs to address visual impacts from Nevada Gulch Road. Also, in the third paragraph on page 2 of the Stantec report in Appendix N and the fourth paragraph on page 58 in Section 3.11.1 (Visual Stimulation), Stantec refers to an industry standard it used to evaluate visual impacts from public roads rather than private residences in the Lost Camp subdivision. Please include details on the industry standard and include any references to justify the statement. Since the Lost Camp subdivision is immediately south of the Boston Expansion area, please explain why more weight was not given to views from the residences shown in the photos in Appendix N and other residences closest to the mine instead of the public road in front of the residences.

Visual impacts from Nevada Gulch Road (VP4) were discussed in Section 3.11 (page 58).

As noted, the viewsheds or vantage points selected for visual resource analysis were based on public access points that had the highest probability of public visibility of the proposed Boston Expansion. While there are residences in the Lost Camp subdivision south of the Boston Expansion area, based on topography and vegetation, most of these residences appear to have very limited to no view of the proposed Boston Expansion. The overall view or visual analysis of the project is not significantly altered by placing a vantage point on a public road in front of a residence versus at the residential structure. The number of viewers is greater on the road itself than at a private individual view (e.g a residence). And the viewshed on the road is generally greater and more likely to have view of the mine so long as the structure itself was not obstructing the view.

The note on industry standard is principally based on the experience of team members at Stantec on past projects versus a specific reference. Many state and federal agencies, including South Dakota, do not have a formal procedure for visual impact assessment but rather use a variety of methods. However, Stantec's visual analysis methodology and experience are influenced by references including BLM Manual 8431 – Visual Resource Contrast Rating [BLM, 1986, https://blmwyomingvisual.anl.gov/docs/BLM_VCR_8431.pdf] and the Guidelines for the Visual Impact Assessment of Highway Projects [U.S. Department of Transportation, 2015, https://blmwyomingvisual.anl.gov/docs/VIA_Guidelines_for_Highway_Projects.pdf]. The BLM manual involves evaluating visual impacts at key observation points, locations which are selected in areas where people are present or have public sensitivity to the visual impact that would be created. BLM recommends the vantage points should represent either a typical view from a sensitive viewing location or view that encompasses the range of impacts associated with the project. The BLM manual also recommends that vantage points are usually located on commonly travelled routes from which the project would be visible, or other likely observation points. The US DOT guide recommends viewpoints be placed, a minimum of one per landscape unit (defined by viewsheds and landscape types rather than a specific residence).

The third paragraph on page 1 of the Stantec report in Appendix N states that vantage points were chosen collaboratively by Stantec, Wharf, and RESPEC. However, in the fourth paragraph on page 2 of the report, it states that Wharf took the photos from the selected vantage points. Since this was a

collaborative effort, were Stantec officials present at the mine site when the photos were taken since the company did the visual analysis in Appendix N?

As previously stated, vantage points were chosen collaboratively by Stantec, Wharf, and RESPEC. The preliminary locations were first based on group discussions and review of topographic maps, satellite imagery, and digital elevation models in GIS. And Wharf staff conducted a field review to locate obscuring elements (e.g. vegetation) and then obtained on-the-ground photos from the selected vantage points. Representatives from Stantec were not present at the time the photographs were taken.

In addition, a post build and reclaimed analysis of the fence line and Lost Camp Subdivision photos taken on December 30, 2021 and January 20, 2022, needs to be conducted by Stantec.

The fence line and Lost Camp Subdivision photos were analyzed by Stantec for visual impacts as presented in the previous submittal of Appendix N. Photos noted as Figure #b or "conceptual image post-vegetation removal and mining" are the post-build analysis figures that were generated by Stantec. The post-reclamation figures were deemed to look essentially the same as the post-vegetation and mining photographs and hence a separate image was not exported. The December 2021 and January 2022 photos that look away from the mine or have zero visibility of the mine do not have conceptual figures, as again the figures would look the same.

Finally, Figures 1 through 11 in Appendix N need to be on 11 x 17 paper, or rotate them 90 degrees so they are larger and easier to view.

Figures 1 through 11 have been reformatted on 11 x 17 paper and enlarged.

Technical Comments

1. Table 1-4, Introduction page 11: Under 'Total Expansion Acres" in Table 1-4, the acreage needs to be changed from 679.99 acres to 697.99 acres.
The acreage typo has been corrected.
2. Section 3.1, General Geology and Depositional Environment, page 15: In the last sentence of the second paragraph of this section, the surface geology map and geologic cross sections are shown in Exhibits 6 through 10 in Appendix B, not Exhibits 6 through 8.
The exhibit number was corrected.
3. Section 3.1.4.3, Meteoric Water Mobility Test Results, page 21: Please include the drinking water standards for arsenic and fluoride in this section.
The drinking water standards for arsenic and fluoride were added.
4. Section 3.1.4.7, Mitigation Plan for Acid Generating Potential Rock, pages 23 through 28: Since this section discusses more than an acid generating mitigation plan, such as ARD analysis, please expand the title of this section accordingly.
The section title was edited to "Acid-Generating Potential Rock Analysis and Mitigation Plan".

5. Section 3.2.2, Soils Discussion, page 30: In the sixth paragraph of this section, Wharf states that during exploration operations in the Boston Expansion area, topsoil was piled near the end of access trails or adjacent to trails and drill pads and not placed in a separate soil stockpile. As a result, Wharf believes that the topsoil volume calculations in the mine permit application are not impacted.

Please note that a similar practice was employed by Wharf under EXNI-433 at the Richmond Hill Mine. During a recent inspection, we noticed some topsoil eroding from the topsoil piles along the access trails. We also noted these piles were not seeded. In addition, during previous inspections of the exploration in the Boston Expansion area, Wharf indicated it added inorganic dirt and rocks to several existing topsoil piles when it established additional access routes. These piles were also not seeded. This could negatively impact the use of piled topsoil during final reclamation of the exploration area. Based on these inspections, Wharf needs to acknowledge that there is potential for some topsoil loss from erosion in the Boston Expansion area and address steps it is taking to mitigate topsoil erosion and impacts in exploration areas.

Wharf acknowledges that soil windrows produced during the creation of temporary exploration access roads could have the potential for minor localized erosion under significant storm events and tries to balance limiting additional disturbance during exploration by utilizing these windrows rather than constructing access to and hauling to larger stockpile areas elsewhere. During salvage of soil across the Boston Expansion area, any topsoil windrows from recent exploration will be incorporated into the entire Boston topsoil grubbing effort and placed in stockpiles as per normal operating practices. During this process, large boulders, trees, and rootballs will be segregated as much as possible and removed. Final segregation of any remaining large, non-soil components occurs during the dozer application of the topsoil veneer to reclaimed slopes, where the approximate 6-inch depth application forces any larger components out to the side.

6. Section 5.3.4, Pit Development and Sequencing, page 72: In the second paragraph, Wharf states that the majority of the pre-strip waste will be hauled to the Green Mountain area for backfill material and for backfilling the far east end of the Boston Pit for final reclamation. Since it appears this refers to the previous sentence in which pre-stripping will be initiated in 2022, how can the far east end of the Boston Pit be reclaimed if it has not been mined yet? Should it be the east end of the Portland Pit that will be backfilled for final reclamation? Please clarify.

The text in Section 5.3.4 has been corrected to indicate mining in the Boston Expansion will proceed from east to west.

7. Section 6.2.1, General Reclamation Type Requirements, pages 81 and 82: This section does not address the requirements of ARSD 74:29:06:02 and only addresses the requirements of ARSD 74:29:07:02. As a result, the title of this section should be changed to "Minimizing Adverse Impacts of the Mining Operation". Also, in the previous comment letter, we told Wharf that none of the requirements of ARSD 74:29:06:02 have been addressed in the mine permit application. As a result, each subsection of this regulation must be addressed in a separate section. Also, in the first paragraph on page 81 of this section, "ARSD 74:29:07—" must be changed to "ARSD 74:29:07:02".

The comment about addressing ARSD 74:29:06:02 was included in SD DANR's July 2022 comment letter (comment no. 25) and as such is addressed in Wharf's response to the July letter. The title of Section 6.2.1 has been changed as suggested and the callout was specified to ARSD 74:29:07:02.

Also, in the second paragraph on page 81 of this section, Wharf states that SD DANR has already approved reclamation of significant acreages at the Golden Reward and Wharf Mines. Please clarify or rewrite this statement since DANR has not approved any reclamation at the Wharf Mine. The only reclamation acreage DANR has approved is the reclaimed acreage at the Golden Reward Mine that the Board of Mineral and Environment released Wharf from reclamation liability under Mine Permit 450 in 2009.

The statement has been reworded and clarified.

In addition, in the final sentence of the second paragraph of this section, Wharf states that concurrent, interim, and final reclamation are being performed at the Wharf and Golden Reward Mines and will continue. Please provide additional information or examples of concurrent, interim and final reclamation areas at the Wharf Mine and the status of interim and final reclamation at the Golden Reward Mine.

The following text has been added to Section 6.2.1. "Interim reclamation includes the seeding of temporary topsoil stockpiles, while examples of concurrent reclamation are applying topsoil and seed to partially backfilled and sloped areas of the Harmony Pit at Golden Reward and the American Eagle facility at Wharf while other portions of these same areas were still being backfilled and sloped. Recent examples of final reclamation being completed are the single lane area leading into the Golden Reward Mine and the American Eagle slope adjacent to Perkins Road at the Wharf Mine. Mining activities are now complete at Golden Reward Mine and final reclamation areas are evaluated annually by SD DANR."

Finally, in the third paragraph on page 82 of this section, Wharf states that impacts to surface and ground water will be minimized since no spent ore will be placed as backfill in the Boston Pit. Wharf needs to also address any potential impacts the waste rock backfill may have on surface and ground water.

The following text was added to both Section 3.3 and 6.2.1.

Only minor, if any, impacts on groundwater chemistry are predicted in association with extracting material and waste rock disposal. The presence of mine pits exposes additional rock surfaces to infiltrating water. Similar to the rest of the Wharf and Golden Reward Mine areas, the ore being mined in the Boston Expansion Area has low concentrations of sulfide minerals and will not likely impact water quality.

Impacts on groundwater quality resulting from waste rock disposal may be similar to the groundwater impacts in nearby areas that have previously been mined and backfilled with waste rock. Examples of these impacts include increased nitrate concentrations in shallow wells within the Wharf permit boundary. Given these experiences, an increase in nitrate may occur below the Boston Expansion Area. Based on historic observations and modeling of groundwater impacts from backfill at the Wharf Mine, RESPEC infers that the increase in nitrate from blasting and waste rock disposal is not expected to exceed the groundwater standard of 10 parts per million (ppm) outside the proposed Boston Expansion permit area [Hocking and Meuzelaar, 2021].

8. Section 6.2.1.2, Refuse Disposal, page 83: In the second paragraph of this section, Wharf states the expansion is not anticipated to directly result in petroleum, cyanide, or other contaminated soil.

Wharf needs to acknowledge that petroleum products could possibly leak from heavy equipment in the Boston Pit and contaminate soils in the pit and needs to address how the contaminated soil will be removed from the pit.

Should any hydrocarbon spills occur in the Boston Expansion, Wharf will follow it's established spill practice and remove any contaminated soil from the spill site and conduct confirmation testing as well as DANR reporting as required.

9. Section 6.2.2, Specific Postmining Land-Use Types: In the third paragraph of this section, Wharf states that requirements for reclaiming the land to rangeland were developed in consultation with Cedar Creek Associates and the Lawrence County Conservation District. Please note that DANR was also consulted during the development of this plan. The plan was submitted as part of a technical revision which was approved on April 7, 2008. Please include this information in this paragraph.

This information has been added to Section 6.2.2.

10. Section 6.4.2, Seedbed Construction, page 87: In this section, Wharf states a typical farmland seedbed is not possible because of the natural debris present in the material (e.g., small brush and rocks). Since Wharf has committed to removing debris from topsoil prior to stockpiling, how large are the rocks and small brush in the topsoil and why can't they be removed prior to stockpiling?

Text in the LSMP has been amended to address this comment. A farmland seedbed is not a good analogy for what is salvaged as growth medium from a natural Black Hills landscape in generally steep, rocky terrain. Small trees, brush, stumps, and a lot of small to large rocks are often encountered and unavoidable during grubbing as that material is the natural ecological state of area soil versus a tilled and rock-picked farm field. Wharf does it's best to avoid rocks and brush but due to the large equipment used for soil removal this is not always practical. Larger debris are removed when stockpiling, and the majority of items roughly 6" or larger are effectively filtered out during topsoil placement due to the blade distance from the ground surface. Any larger items that do end up on top of the seedbed after that serve as excellent snowdrift/shaded areas for enhanced natural landscape and small mammal habitat.

11. Section 6.5.3, Woody Species Revegetation, pages 88 and 89: In this section, Wharf commits to voluntarily planting some trees and shrubs and transplanting tree pods to provide visual diversity. Please note that Wharf has committed to this concept in past mine permit applications. Although this is voluntary since there are no tree and shrub planting requirements for rangeland, DANR has not noted any tree and shrub plantings or tree pod transplants in reclaimed areas over the last five to ten years. Please address this inconsistency.

The two large areas that have been reclaimed in the last five years are located at the Harmony Pit at Golden Reward and portions of the American Eagle Pit. There have not been any nearby sources of trees and woody species available; distant sources are unlikely to survive a long-distance transplant in the summer heat.

12. Section 6.7.1, Pit Bench and Backfill Reclamation, page 91: If the Boston Pit will be regraded to a 3:1 (H:V) slope, why is there a discussion in this section on Wharf regrading slopes steeper than 3:1? DARN agrees reclamation of steep slopes can be very difficult, especially slopes steeper than 2.5:1. We have expressed concerns to Wharf in the past about regraded slopes being steeper than 2.5:1.

The discussion about slopes steeper than 3:1 has been deleted from this section.

13. Table 6-4, page 97: In the table, the current reclamation bond amount needs to be changed from \$37,379,300 to \$58,246,100.

Table 6-4 has been edited as suggested. As a result, the additional bond required was also recalculated and indicates that current bond exceeds the estimated reclamation bond costs.

14. Section 6.10.3, Cyanide Bond, page 103: In this section, Wharf needs to include more details on the requirements for a cyanide bond. It was more than just a review of the heap leach mining industry in 1992. As part of a recommendation from the Cumulative Environmental Evaluation Task Force, the Board of Minerals and Environment in 1991 issued an order requiring each large scale gold mine that uses cyanide to identify scenarios and develop costs to respond to and remediate releases. In Wharf's case, a slow chronic release of cyanide was determined to be more costly than an accidental release. This should be mentioned in this section.

Also, the cyanide bond is adjusted for inflation on an annual basis, not as necessary as stated in this section.

This information has been added to the "Cyanide Bond" section.

15. Section 7.0, Proposed Technical Revision Permit Conditions: We have some additional comments on Wharf's proposed technical revision:

- Remove "and offsite use of spent ore" from the phrase "Modifying compliance limits for chemical parameters as allowed within the mining laws and mine permit, including spent ore off-load criteria". Wharf is not authorized to use spent ore off site.
- Remove "that are beyond basic operational efficiency measures" and change the remaining phrase to "Submitting and modifying plans and use specifications for permitted facilities". The removed phrase is too broad and is subject to a large range of interpretations on what a basic operational efficiency measure is.
- Remove the phrase "beyond accepted best management practices" from the phrase "Modifying dust control methods". Again, the phrase is too broad.
- Replace the phrase "when not within the active mine disturbance footprint" with "when not within the active mine pit areas" in the phrase "Modifying and relocating state, county, and private roads and haulage routes with the permit boundary." The phrase "active mine disturbance footprint" could be interpreted to mean any disturbance within the mine permit boundary.
- Remove the phrase "or unique site conditions" from the phrase "Modifying stocking guidelines and reclamation success standard to reflect climatic conditions". The phrase is over broad and could be subject to a large range of interpretations.

The above recommended changes have been incorporated into Section 7.0, Proposed Technical Revision Permit Conditions.

16. Exhibit 31, Post Mine Land Use: Please show the approved postmine land uses for all portions of the Wharf Mine on Exhibit 31.

Exhibit 31 illustrates the post mine land use for the Boston Expansion as well as post mine land use for adjacent areas. The post mine land use for other portions of the Wharf Mine are not applicable to

the Boston Expansion application and have been previously submitted and approved by the SD DANR.

17. Appendix F, Groundwater Characterization Study, Section 2.4: Please include an updated assessment of the spring survey conducted in 2022 in this section of the Groundwater Study. Also, please include a reference to the spring survey in the study.

The spring survey is referenced in Section 2.4 as being provided in Appendix J. The discussion of said survey was included in the LSMP report itself but has now also been duplicated in the baseline groundwater report.

18. Appendix F, Groundwater Characterization Study, Figure 2-4 and Table 2-2: Please qualify water elevation results for MW-2A to clarify that water level elevations are not actively taken directly from MW-2A but from an adjacent well and determined through corrective calculations. Please include an explanation of the calculations. Also, please update the legend in Figure 2.4 to include all markings on the map.

Clarification about water level elevations at MW-2A have been added as a footnote to Table 2-2 in the groundwater report. The legend in Figure 2-4 has been expanded to include the transport flow vectors; however it is noted that those items were previously defined in the figure caption.

19. Appendix F, Groundwater Characterization Study, Section 3.4: Section 3.4 of the Groundwater Characterization Study indicates five years of data were included as part of the baseline analysis. However, in Section 2.5.1 of the study, it indicates water level data was used from 2000 through August 2017 with additional data reviewed through April 2020 to create the water table elevation map in Figure 2-4. Why are different time periods used for these two different sections of the report?

Five years of water quality data were reviewed for the baseline groundwater analysis of the Boston Expansion. (Only 1 year of baseline data is required by SD statutes/regulations.) A 5-year dataset (versus 1-year) was used to allow for statistical analysis and review of temporal differences. Water level data used to generate the potentiometric map had a different period of record primarily because the potentiometric map was created for use in groundwater modeling and for use in groundwater discharge permits for the entire Wharf Mine area, not exclusive of the Boston Expansion area nor the baseline analysis period. The use of a larger water level dataset to create the average potentiometric map was considered more appropriate for that application as the groundwater models created for the mine model a significantly long period of time.

20. Appendix F, Groundwater Characterization Study, Section 3.5.1: The report states, "The groundwater quality results at baseline sampling sites are similar to the results from other sampling sites and are representative for mineralized groundwater in the region." Background wells are identified in Section 3.4 as being MW-19, MW-33, and MW-66. Only five years of data are being utilized in the analysis of these sites. Additional historical analysis of MW-19 would show that the water quality of this well is not representative of mineralized ground water, but instead representative of mine impacted ground water. The historical data utilized for analysis of the baseline sites needs to be adequate enough to correctly identify whether water quality is natural or impacted.

The first paragraph of Section 3.5.1 has been edited to address this comment. Further, new Figure 3-3 illustrates a larger historical period of nitrate concentrations at MW-19.

21. Appendix F, Groundwater Characterization Study, Section 3.5.3: The report states, "Historical impacts to groundwater from previous mining activities are minor as evidenced in elevated occurrences of nitrate and arsenic in MW-19 and MW-66, respectively." As noted above, this assessment is inaccurate when applied to MW-19.

The sentence has been edited and a callout to new Figure 3-3 showing historical nitrate concentrations at MW-19 has been added.

22. Appendix G, Surface Water Characterization Study, Table 2.2: Please include units for the parameters in the table. Also, since the value provided for E. Coli is not correct, please input the correct value.

Although the units were noted in the first column heading, the units for the parameters are all mg/L unless noted otherwise. The Table 2.2 has been revised with a unit of measure column that includes units for each parameter.

23. Appendix G, Surface Water Characterization Study, Section 3.3: The first paragraph indicated comprehensive statistics were utilized as part of the baseline analysis. However, the listed methodology appears to conform with a standard ANOVA statistical analysis. Were any additional statistical processes utilized?

These sentences have been revised to standard ANOVA statistical analyses.

24. Appendix G, Surface Water Characterization Study, Section 3.5: The report states, "The water quality results at these eight baseline surface water sampling sites are generally typical for surface water quality in the region". Please include supporting data and analysis to support this statement. Also, this section needs to include a discussion on sample sites that may show mine impacts (i.e. Annie Creek II) and how that water quality compares to other surface sites within the drainage. In Annie Creek II, there appears to be differences in water quality in arsenic, selenium, fluoride, nitrates, TDS, conductivity, and pH as seen in the various time-series graphs in Appendix F of this report.

The statements regarding "region" have been revised to reflect analysis of the surface water sampling sites contained within this baseline report. Discussion regarding the Annie Creek II data on the time-series graphs in Appendix F and the differences in field conductivity, field pH, sodium, arsenic, selenium, cyanide, fluoride, nitrates, sulfate, electrical conductivity, pH, and TDS parameters in comparison to downstream sites (Annie Creek at USGS, CP001/NPDES001, Lost Camp, CP005/NPDES005, and 46MN31) has been added to Section 3.5 Also, the time-series graphs of the above-mentioned parameters at Annie Creek II show that these parameters appear to have remained stable from 2015 through 2021. Moreover, the above-mentioned parameters at Annie Creek II showed no exceedances except for selenium, which is also discussed in Section 3.5.

25. Appendix G, Surface Water Characterization Study, Table E-1: Please confirm the calculations for "Percent Below MDL". All data except gold are currently marked as zero; however, cadmium, copper, chromium, silver, and nickel all have reported concentrations below MDL.

The Percent Below Values values in Tables E-1 through E-8 have been updated.

26. Appendix G, Surface Water Characterization Study, Table E-6: Please confirm values reported for Dissolved Zinc in this table. There are 27 reported sample results in the result but there is no variance in results.

The Zinc -D values in Table E-6 and the Zinc (Zn), Dissolved (mg/L) values in Table 3-2 have been updated.

27. 2021 Baseline Vegetation Assessment, pages 11, 19, and 64: In the first paragraph under "Critical Habitat and Special Status Plant Species" on page 11 and "Critical Habitat Results" on page 64 of the 2021 Baseline Vegetation Assessment, Nevada Gulch is described as being west of the Boston Expansion area. Please note Nevada Gulch is southeast of the Boston Expansion area.

Also, please include a larger version of the Baseline Vegetative Map, such as on an 11 x 17 sheet of paper.

The location of Nevada Gulch was corrected to be noted as southeast of the Boston Expansion and an 11 x 17 size vegetation map was added to Appendix I.

28. Coeur Wharf Boston Expansion Bat Minimization Plan: Please submit a final version of the ICF Bat Minimization Plan without the strikeouts and insertions in the draft version included in the Wildlife Survey. Also, results from the spring bat survey must be included with the final report.

The final bat minimization plan without the strikeouts and the 2022 bat emergence survey memo have been attached to Appendix J.

29. Appendix P, Mine Operations, Spill Contingency Plan: The spill contingency plan has a most recent update of January 14, 2021, listed. Have there been changes to the plan since then, and if so, is there a more recent version of the plan that can replace the version in Appendix P?

There have been no additional updates to the spill contingency plan.

30. Appendix Q, Weed Control Plan: All weed control information in this section was developed by MidDakota Vegetation management which no longer does weed control for Wharf. Is there any updated information available from Wharf's new weed control contractor Iron Horse? Also, the table in this section that list weeds and control methods needs to be updated.

There has not been a change to Wharf's sitewide weed management strategy, only in the contractor conducting the weed spraying. Therefore, the table and information presented in Appendix Q is still applicable for the Boston Expansion. Iron Horse is a licensed and insured weed contractor based out of Belle Fourche who also conducts weed spraying for Barrick/Homestake, Richmond Hill, and Dakota Gold, among others in the area.

31. Several times throughout the mine permit application, Wharf Resources (USA), Inc is referred to as Coeur Wharf. Since Wharf Resources (USA), Inc. is the official applicant, all references should be made to Wharf Resources (USA), Inc. and not Coeur Wharf.

The application and mine body of the application as well as baseline reports prepared by RESPEC have been reviewed and references to Coeur Wharf have been replaced; a rare reference to Coeur

may be present in the baseline reports for botanical resources. However, it is clear that the applicant is Wharf Resources (USA), Inc.

Please note that the information requested in the July 13, 2022 letter and the information requested in this letter must be filed with the Lawrence County Register of Deeds office with the original mine permit application which is already on file for public review. Proof of filing, such as a letter from the register of deeds office, is required to be submitted. Also, this information should be sent to the review agencies which received a copy of the mine permit application.

Comment acknowledged.