

EXTERNAL MEMORANDUM

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From: Mr. Matt Zietlow
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Date: December 2, 2022

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

Wharf submitted a revision to the Large Scale Mine Permit to the South Dakota Department of Agriculture and Natural Resources (SD DANR) on November 22, 2022. Procedural completeness and technical comments were received from SD DANR via email on November 29-30, 2022. This response to comments memo specifically addresses those comments and serves as an addendum to the application report. Wharf responses are in red, and supplemental materials are provided as attachments.

Comments

In Section 1.1 – SDCL 45-6B-32, the second sentence has “the surety bond for the Boston Expansion is covered by the current bond.” This statement needs to be revised as the estimated bond requirements for this project have not been determined yet. It would be more appropriate to refer to the bond estimate included in the application. The estimate must be reviewed by DANR and further discussions and analysis between DANR and Wharf prior to the bond being finalized.

Comment acknowledged. The sentence in Section 1.1 will be revised to read “the estimated surety bond for the Boston Expansion is included in the application and will be reviewed by the DANR prior to being finalized.”

Table 1-1 – Some of the references for SDCL 45-6B-32 and subsections need to be updated to include Section 1.1.

The references for SDCL 45-6B-32 and subsections will be updated to also include reference to Section 1.1 as indicated in the table below.

Statute	Information Required	Permit Application Reference
SDCL-45-6B-32	Compliance with this chapter	Chapter 1.0
SDCL-45-6B-32(1)	Complete Application and Posted Surety	Section 1.1, Appendix A

SDCL-45-6B-32(2)	Application Fee	Submitted
SDCL-45-6B-32(3)	Proposed Operation in Compliance with Laws and Regulations of State and US	Section 1.1
SDCL-45-6B-32(4)	No adverse effects to structures within 200-ft	Sections 1.1 and 5.3.5
SDCL-45-6B-32(5)	Mining Operation not in violation with county zoning	Sections 1.1 and 2.3

Exhibit 23 – There is no note in the legend stating the backfill extent is the same as the pit extent.

The revised Exhibit 23 is attached. The legend has been revised to indicate the pit extent and the backfill extent are concurrent.

Why was the bonding section removed from the reclamation plan submitted to the Determans?

As described in SDCL 45-6B-44, “The operator, upon written request of an adjacent landowner, shall provide each a copy of the proposed reclamation plan or substantial amendment to a reclamation plan.” The Determan’s did not request in writing a copy of the reclamation plan; however, a copy of the plan was provided per DANR request which has been acknowledged by the Determan’s with no further comment or request from them

Also, in Section 1.1 – SDCL 45-6B-32, there needs to be a more clear definitive statement that Wharf is currently in violation of state law in regards to the selenium issue on False Bottom Springs.

Wharf is actively investigating the source of, and potential management or treatment of, surface water emanating from False Bottom Spring that exhibits selenium levels which currently exceed surface water standards. This spring is located on Wharf property, near the northern boundary of the Wharf Mine, immediately below the historic Bald Mountain Mill tailings repository. The Bald Mountain Mill operated from approximately 1905 through just after WWII.

Wharf is currently working in conjunction with the DANR Surface Water group on pilot testing two potential treatment options and refining geochemical modeling of the upgradient area to better identify the potential source of selenium. This testing and modeling is nearly complete. Findings from these studies are anticipated to result in a formal compliance schedule to be incorporated in the forthcoming NPDES permit renewal for Wharf, which is currently being drafted by the DANR Surface Water group.

Please provide a copy of the SWPP as supplemental information to the permit.

The SWPPP document, including appendices, is provided with this submittal.

Section 3.12.6 – Please specify in the text which of the drainages near to the Boston Expansion Project are classified as coldwater fisheries.

Near the Boston Expansion, both Annie Creek and Nevada Gulch Creek are designated as having the beneficial use of “cold-water marginal fish life propagation waters”. This information is noted in Section 2.3 Beneficial Uses within the Surface Water Characterization Study of the Wharf Boston Expansion Project. The revised section 3.12.6 is provided below.

3.12.6 AQUATIC RESOURCES—COLD-WATER FISH LIFE PROPAGATION WATER

The Boston Expansion is located within the Annie Creek, Lost Camp, and Nevada Gulch drainages. According to ARSD 74:51:03:01, all streams in South Dakota are listed as having the beneficial use as fish wildlife propagation; thus, water quality standards must be maintained for such use. As streams near the Wharf Mine (including Annie Creek and Nevada Gulch Creek) are classified as coldwater fisheries, ARSD 74:51:01:32, relating to effluent limits for discharges to coldwater fishery waters, is also applicable and will be adhered to for the Boston Expansion. The surface-water standards for BOD, ammonia, chlorides, dissolved oxygen, hydrogen sulfide, pH, TSS, temperature, or toxic pollutants will not be exceeded within any drainage as a result of mining operations at the Boston Expansion (Section 3.4) (ARSD 74:51:01:32, 45, 46, and 55, as well as in Wharf’s NPDES permits). No water from the Boston Expansion is anticipated to impact surface water or aquatic resources, including coldwater fisheries. Efforts to mitigate effects on surface-water quality and aquatic resources include sedimentation-, erosion-, and drainage-control structures (described in Section 5.3.6).

Table 1-2 – ARSD 74:29:07:08(4) lists the incorrect reference.

The permit application reference for ARSD 74:29:07:08(4) listed in Table 1-2 should refer to Section 6.2.1.1.

Exhibit 23 does not appear to be the shapefile data submitted to Eric Holm on November 21, 2022. Please submit the correct version.

All of the potential mine facilities outside the pit area within the Boston area and the 7.6 acres of current unaffected land within the current mine permit boundary are intended as permitted affected acreage with the designation of “Ancillary Disturbance (Utility Corridors, Equipment and Personnel Access, etc.)”. The legend on Exhibit 23 has been edited and a revised map is attached. Note, part of this ancillary area is currently planned for use as waste rock backfill, as shown on Exhibit 23.

Further, Wharf requests to add the following technical revision category to require Wharf to submit a technical revision when the specific mine facility type within this area of ancillary disturbance is determined. This item has been added as item 36 in Chapter 7.0 of the permit application report.

36. Specify mine facility type within areas of ancillary disturbance within the permitted affected acreage prior to disturbance of more than 1 acre within this area.

There is no regulation referenced on Exhibit 21. Please correct.

Exhibit 21 shows post-mining topographic contours and watersheds. This exhibit has been edited to add the following regulation references: SDCL-45-6B-7(8) a and b, SDCL 45-6B-37, SDCL 45-6B-41, ARSD 74:29:02:04(2), ARSD 74:29:02:11(9), and ARSD 74:29:07:09.

The response provided to Comment #14 under the Procedural Completeness section of the November 21, 2022 response letter, states that Wharf staff have experience in developing and implementing reclamation plans based on success at Golden Reward, Annie Creek, and Ross Valley. DANR would like to point out that, with the exception of State Mine Permit #476, those reclamation plans for those facilities were developed 20 years ago and none of the employees involved in the development of those plans are currently employees at Wharf Resources. Please provide the qualifications of Wharf employees involved in the development and implementation of reclamation plans. In addition, if any ReSpec employees were also involved in the development of the reclamation plans, the qualifications should also be included for those individuals as well.

For the land shaping and re-contouring piece of the reclamation plan, all work was done in-house by wharf engineering staff following established successful reclamation implemented at Golden Reward as well as areas of the current Wharf Mine. The engineering staff overall have a combined 100 years of mining and mine planning experience to include both small and large reclamation acreage. Staff working on reclamation plans are comprised of mining engineers, geological engineers, and geologists, including three Registered QPs with SME/MMSA. They have been responsible for the development and design of the mine plans, reclamation plans, and financial planning, and have developed and implemented the reclamation of hundreds of acres currently completed at Wharf. They also have a key role in monitoring reclamation landform success in established reclamation areas and designing and implementing minor changes based on field conditions and/or weather.

Individually Include:

- Geology / Masters Mining Eng. - 11 yrs exp.
- Masters Mining Eng. – 12 Years
- Geological Eng. – 17 years, QP
- Engineering Supervisor – 20 years
- Mining Eng. – 20 years, QP
- Mining Eng. – 20 years, QP

Additionally, the site Environmental Manager has been involved in developing, reviewing, implementing, and monitoring mine reclamation at multiple active and closed mines and exploration projects in Montana, Nevada, South Dakota, and Arizona, on both private and public lands.

No RESPEC employees were involved in the development or implementation of reclamation plans at Wharf. RESPEC staff assisted in assembly and technical editing of the reclamation plan as provided by Wharf for insertion into the Boston Expansion application report.

SDCL 45-6B-41, ARSD 74:29:02:11(9), and ARSD 74:29:07:09 – Please submit a conceptual map showing potential erosion and sediment control structures for the expansion area. An example of this has been taken from the 2011 American Eagle Expansion Permit and attached to this email.

Exhibit 21 has been edited to include conceptual surface flow paths based on post-reclamation topography. Approximate locations of temporary BMP sediment control structures (straw bales, waddles, etc.) in accordance with the SWPPP have also been added to the map.

Exhibit 24 the reference to 45-6B-6(8) is incorrect for the content of the map. Please correct.

Exhibit 24 is a map of the utilities within the vicinity of the Boston Expansion. The reference to 45-6B-6(8) which refers to mining methods, has been removed from the exhibit. A revised map is attached.

Please include pre-mining contours on the cross-sections provided for E-E' and F-F' on Exhibits 36 and 37.

Pre-mining topography has been added to cross-sections E-E' and F-F'. Revised Exhibits 36 and 37 are attached.

We found a conflict in the maps and the cross sections that needs to be addressed. Under response it has been stated that the extent of the pit is the same as the extent of the pit backfill (wasterock). However, Exhibit 37 F-F' shows waste rock outside of the pit extent. If this is accurate, the waste rock fill on the west side of the Boston Expansion needs to be shown on the Plan Map. This cannot be counted as an ancillary facility if it is being utilized for waste rock disposal. Or the cross section needs to be fixed to not show waste rock extending out of the pit which may also require a fix of Exhibits 31A and 31B to show the change to contours as a result of the change in the cross section.

There is some shaping/contouring typically on the edges of backfilled pits as part of effectively blending reclamation surfaces, as well as topsoiling, which is what is exhibited on the reclaimed surface drawings. The approximate extent of backfill has been added to Exhibit 23.