



Ardy Sharifabadi &lt;sharifabadi.ardy@azdeq.gov&gt;

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**Re: Copper World Project - APP Application - Response to June 23, 2023 Info Request**

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**Ardy Sharifabadi** <sharifabadi.ardy@azdeq.gov>

Wed, Oct 11, 2023 at 6:26 PM

To: David Krizek &lt;david.krizek@hudsonbayminerals.com&gt;

Cc: Kyle Richards &lt;richards.kyle@azdeq.gov&gt;, Ethan Leiter &lt;leiter.ethan@azdeq.gov&gt;, Wayne Harrison &lt;harrison.wayne@azdeq.gov&gt;

Hi David,

Thank you for submitting the IRSS responses on time. As per our meeting this morning, here are the follow-up questions regarding the IRSS responses.

**General Items****Item 1: (Closure & Post-Closure):**

- The Closure Costs include a cost for placement of “topsoil” vs a “cover”. Please indicate a closure strategy including information such as overall thickness, lifts, etc. related to placement of cover on the TSFs and HLF. If the placement of a low permeability cover is contemplated and it is not the same as the topsoil, then the costs may not be adequate. If necessary, provide updated closure and post-closure costs.
- The closure and post closure cost as per R18-9-A201(B)(5)(a) required to be prepared by engineer, controller, or accountant. Please provide credentials of the person who prepared the closure and post closure cost Technical Memorandum, and have an Arizona licensed engineer seal the document if applicable.
- Table 1-2 there is no cost to cap the pond for the primary settling pond as mentioned in the conceptual closure plan “**Capping of the pond area with a low permeability cover**”
- Clarify if the Contingency Costs are included in the line for Indirect Costs in Table 1-2 (see Attachment 1, PDF page 10). The Contingency Cost (\$3,010,892) appears to only account for 4% of the closure and post-closure cost (\$75,272,310). ADEQ has consistently seen 10% to 20% in Contingency Cost in most applications. Please revise the closure costs appropriately.
- Regarding “Process Ponds - Backfill and Growth Media Costs” presented in the SRCE table, what is the proposed thickness of growth media proposed for each pond to arrive at a Growth Media Volume of 1,111 cubic yards? Explain why there is no Growth Media proposed for the Primary Settling Pond, Pregnant Solution Pond, and the HLF North Stormwater Pond.
- ADEQ will include the Compliance Schedule Item (CSI) that mandates the submission of the site-specific data during the operation for “HLDE Model Output for HLP” during updating the closure cost every 5 years.

- Please provide a table with the original unit cost and the adjustments.

**Item 2: (Contingency Plan):**

- ADEQ will include the Compliance Schedule Item (CSI) that mandates the submission of an update for the OMS, ERP, and CQA.

**Item 3: (Operation, Maintenance, and Surveillance (OMS) Plan):**

- There appear to be area(s) of deep alluvium under the TSF2. Please justify why piping failure will not pose a stability issue for TSFs during the early years of operations. Please justify why there is no instrumentation for the area that has thicker alluvium.
- Please provide a plan view drawing that transports the solutions from the TSF to the Primary settling Pond.
- Drawings in Attachment 7 are marked "PRELIMINARY". Please provide drawings which do not contain labels such as "Draft", "Preliminary", or "Not for Construction".
- Attachment 7 Page 3 mentioned "The Native Low Hydraulic Conductivity Layer (if not bedrock) was interpreted based on in-situ characterization data collected from the geotechnical investigations which are representative of either dense to very dense or hard native soils with measured N values greater than 30". Please provide the justification for the relationship between SPT and permeability.
- Attachment 7 Page 11, Please provide the profile for 125+00 to 183+95 (TSF2)
- Attachment 7 Page 7-13, Please provide the vertical elevation on the profiles
- ADEQ will include the Compliance Schedule Item (CSI) that mandates any changes to the triggering levels would require stability update and if required, a permit amendment.

**Engineering Items****Item 9: (The WR Facility (WRF)):**

- The Leach pad progression provided on the Attachment 8 has some area between north and south of the HLF that is not filled. During the meeting on October 11, 2023, you indicated that this area is where the pipes will be placed. Explain and show cross-sections and/or elevations.
- Response to Comment 9 indicates "there will be a minimum final 50 feet cover on top of any PAG or AG materials ". Explain what type of material will be used for the 50-foot cover. If appropriate, provide updated closure costs that incorporate the cost of placement of minimum 50 feet of cover.

- ADEQ will include the Compliance Schedule Item (CSI) that provides the test results for the rock type, predicts PAG and NAG, and compares them to the model. If model adjustments are required, the frequency of sampling and waste rock placement will be changed..

**Item 10: (Based on the Preliminary Geologic Hazards Assessment report):**

- Please provide a detailed drawing accompanied by the design for typical closure of the adits and mine shafts.

**Item 16: (Please provide the following regarding the tailings stacking height):**

- ADEQ will include the Compliance Schedule Item (CSI) that mandates the submission of annual site investigation and instrumentation of the TSF.

**Hydrogeologic Items**

**Item 60: (Please demonstrate that the locations of the proposed POCs):**

- Please provide a plan view map that presents the distances from the property boundary to the POC wells (1, 2, 3, and 4), the proposed companion monitor wells, and the toe of TSF-1.
- ADEQ will include the Compliance Schedule Item (CSI) that indicates that there will be specific criteria that triggers the installation of the companion monitor wells for POC wells 1, 2, 3, and 4. These criteria will be specified in Section 2.5.3.6.

Your response to the items listed above must be received by ADEQ on or before November 10, 2023. Please submit your response to this letter in electronic format to the ADEQ Project Manager; no hard copy is required.

- E-mail to: [sharifabadi.ardy@azdeq.gov](mailto:sharifabadi.ardy@azdeq.gov)

Thank you for your efforts to comply with Arizona's environmental requirements. Should you have any comments or questions regarding this matter, please do not hesitate to contact me at (602) 771-0715 or [sharifabadi.ardy@azdeq.gov](mailto:sharifabadi.ardy@azdeq.gov).

Sincerely,

Ardeshir Sharifabadi, Ph.D., PE, PMP, Project Manager  
WQD, APP Unit, Groundwater Protection Value Stream

cc: Ethan Leiter, Manager, GPVS, WQD, ADEQ  
Kyle Richards, APP Unit, GPVS, WQD, ADEQ  
David Krizek, PE , Senior Manager, Environmental & Permitting , Copper World, Inc.

On Wed, Sep 20, 2023 at 4:04 PM David Krizek <[david.krizek@hudbayminerals.com](mailto:david.krizek@hudbayminerals.com)> wrote:

Ardy,

The following carrier letter (and associated attachments) were uploaded to the ADEQ file share site in response to ADEQ's June 23, 2023 request for information regarding the Copper World Project APP application.

Please see the attached carrier letter and screenshot of the ADEQ file share site showing the complete submittal.

Sincerely,

**David Krizek, PE**

Senior Manager, Environmental & Permitting  
Gerente Senior, Medio Ambiente y Permisos



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