



600 Shields Ave.  
Butte, Montana 59701

January 26, 2024

Montana Department of Environmental Quality  
Hard Rock Mining Bureau  
Attn: Garrett Smith  
P.O. Box 200901  
Helena, MT 59620

**Re: 2023 Annual Inspection Report for Yankee Doodle Tailings Impoundment and Corrective Action Plan for Recommendations**

Dear Mr. Smith:

The Engineer of Record (EOR) annual inspection of the Montana Resources, LLC (MR) Yankee Doodle Tailings Impoundment (YDTI) was conducted on September 28 and 29, 2023, by Mr. Daniel Fontaine, P.E., the Engineer of Record (EOR). Mr. Fontaine was accompanied during the site inspection by Mr. Mike Harvie (Manager of Engineering and Geology) of MR.

The EOR annual inspection is required under Section 82-4-381 of the Montana Code Annotated (MCA), which also requires the mine operator to prepare a Corrective Action Plan (CAP) summarizing the recommendations of the EOR and an implementation schedule for the corrective actions. KP prepared the 'Yankee Doodle Tailings Impoundment – 2023 Annual Inspection Report (AIR)' (KP, 2024), following the inspection.

This letter documents MR's CAP in response to the recommendations presented by the EOR:

1. Manage freshwater use from the Silver Lake Water System and operation of the Polishing Plant to maintain the water inventory in the YDTI supernatant pond around the target volume of approximately 15,000 acre-ft (+/- 3,000 acre-ft). Assess if this normal operating target range (12,000 acre-ft to 18,000 acre-ft) can be maintained without adverse impacts to ongoing mine operations.
2. Continue regrading the upstream slope of the North-South Embankment during construction of the tailings pipeline corridor for EL. 6,450 ft lift. Initial regrading activities were undertaken in 2023 as a result of the 2022 EOR AIR recommendations. Regrade the embankment upstream slope to cover and incorporate the tailings pipeline discharge corridor along the EL. 6,400 ft lift. Implement the alluvium facing layer between the crest of the tailings pipeline corridor along the EL. 6,450 ft lift and the upstream alluvial facing of the EL. 6,400 ft lift along the regraded upstream slope. The intent is to create a continuous layer of alluvium between the EL. 6,450 tailings pipeline corridor and the alluvium facing previously placed as part of the EL. 6,400 ft lift construction. This recommendation applies to the remaining portion of the North-South Embankment between Section 28+00N and the abutment at Rampart Mountain. (continuation of 2022 recommendation).
3. Regrade the upstream slope of East-West Embankment between approximately Sections 33+00NW (Discharge 2-1) and 23+00NW from the tailing discharge corridor to the tailings beach surface to mitigate the differential settlement cracking currently observed along the tailings discharge corridor in this area. Tie in the

regraded slope neatly with the upstream embankment slope east of Section 23+00NW. Reapply alluvium facing with a minimum nominal thickness of 3 ft to the regraded slope in this area to enhance continuity of the upstream alluvium facing layer along the center part of the dam.

MR has developed the following CAP that is expected to effectively address the recommendations contained in the AIR.

- 1. Manage freshwater use from the Silver Lake Water System and operation of the Polishing Plant to maintain the water inventory in the YDTI supernatant pond around the target volume of approximately 15,000 acre-ft (+/- 3,000 acre-ft). Assess if this normal operating target range (12,000 acre-ft to 18,000 acre-ft) can be maintained without adverse impacts to ongoing mine operations.**

MR continued to operate with reduced freshwater use in 2023 (in comparison to pre-2017 years), with a calendar year daily average Silver Lake Water System (SLWS) flowrate for MR mine operations of approximately 1.2 MGD (used in both the mill and HsB WTP). This is comparable with the average flowrate since mid-2017. MR believes that the reduced use of SLWS water is sustainable.

The Polishing Plant, which facilitates off-site water discharge, was commissioned in September 2019 and is operated by Atlantic Richfield Company (AR). AR has advised MR of its commitment to maintain the YDTI supernatant pond target inventory with due consideration for seasonal fluctuations and the possibility of temporary interruptions that could impact the ability to discharge water off-site. The net YDTI water deficit since 2019 is approximately 5,600 million gallons (17,300 ac-ft), through July 2023. The water inventory reductions at the YDTI during this period are attributed to several factors, with the operation of the Polishing Plant considered to be the most significant factor.

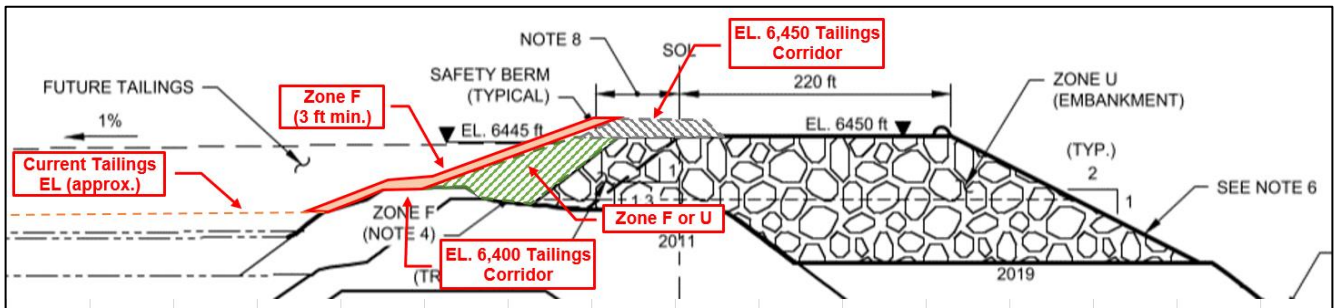
The supernatant pond volume as of the July 2023 bathymetric survey was estimated to be approximately 17,100 acre-ft (MR, 2023a). MR is optimistic that the YDTI supernatant pond target inventory of 15,000 acre-ft (+/- 3,000 acre-ft) can be maintained to support current operations. MR will continue to monitor freshwater use. MR will provide data on freshwater use as well as data on water treatment/discharge operations to the EOR daily. MR will also alert the EOR of any significant changes in operations that could substantially alter the water balance.

MR intends to assess the implications (both favorable and adverse) and sustainability of the reduction in the operating pond volume. The assessment will include evaluation of whether the current normal operating target range is operationally acceptable, including the potential need to increase or the potential to reduce the target, and MR and AR's ability to maintain the target during normal seasonal fluctuations as well as more extreme climatological events (e.g. wet years and drought years). MR will conduct the next bathymetric survey for pond volume in mid-summer 2024. MR will routinely update the EOR with information related to this on-going assessment.

- 2. Continue regrading the upstream slope of the North-South Embankment during construction of the tailings pipeline corridor for EL. 6,450 ft lift. Initial regrading activities were undertaken in 2023 as a result of the 2022 EOR AIR recommendations. Regrade the embankment upstream slope to cover and incorporate the tailings pipeline discharge corridor along the EL. 6,400 ft lift. Implement the alluvium facing layer between the crest of the tailings pipeline corridor along the EL. 6,450 ft lift and the upstream alluvial facing of the EL. 6,400 ft lift along the regraded upstream slope. The intent is to**

**create a continuous layer of alluvium between the EL. 6,450 tailings pipeline corridor and the alluvium facing previously placed as part of the EL. 6,400 ft lift construction. This recommendation applies to the remaining portion of the North-South Embankment between Section 28+00N and the abutment at Rampart Mountain. (continuation of 2022 recommendation).**

MR proposes to continue the upstream slope regrading of the North-South Embankment with the same construction methodology implemented along the East-West and North-South embankments as outlined in the 2022 CAP (MR, 2023b) and illustrated in Figure 1. It is anticipated that the North-South regrading activities will occur in Q1 and Q2 of 2024. The timing and completion of this work will be dependent on tailings beach conditions as the tailings discharges are used to limit and control dusting from the tailings beach to the most practical extent. Regrading activities will require the temporary disconnection of Tailings Delivery Pipeline 3 at a location between the 3-3 discharge and the 3-4 discharge. The Tailings Delivery Pipeline will be reconnected as the facing and construction of the tailings pipeline corridor advanced to the north.



**Figure 1 Alluvium Facing Placement (MR, 2023b)**

**3. Regrade the upstream slope of East-West Embankment between approximately Sections 33+00NW (Discharge 2-1) and 23+00NW from the tailing discharge corridor to the tailings beach surface to mitigate the differential settlement cracking currently observed along the tailings discharge corridor in this area. Tie in the regraded slope neatly with the upstream embankment slope east of Section 23+00NW. Reapply alluvium facing with a minimum nominal thickness of 3 ft to the regraded slope in this area to enhance continuity of the upstream alluvium facing layer along the center part of the dam.**

MR will temporarily disconnect and remove a portion of Tailings Delivery Pipeline 3 at Discharge Location 3-1 (2-1) and will regrade the upstream slope of East-West Embankment east of Tailings Delivery Pipelines 1 and 2 (approximately Section 33+00NW) to approximately Section 23+00NW using a similar methodology to the construction practices outlined in Recommendation 2. Regrading and alluvium facing materials will be completed using dozers to create a flatter overall slope than currently in place. Alluvium materials will be placed with a minimum nominal thickness of 3 ft and placed to create a continuous layer with the previously placed alluvium.

It is anticipated that the East-West regrading activities will occur in Q1 and Q2 of 2024. The timing and completion of this work will be dependent on tailings beach conditions as the tailings discharges are used to limit and control dusting from the tailings beach to the most practical extent.



600 Shields Ave.  
Butte, Montana 59701

If there are any questions or concerns regarding the CAP and schedule, please contact me at (406) 496-3211.

Sincerely,

A handwritten signature in blue ink that reads "Mark Thompson".

Mark Thompson

Vice President of Environmental Affairs  
Montana Resources, LLC

**Attachments:**

A. Engineer of Record – Verification

**References:**

Knight Piésold Ltd. (KP) 2024, Yankee Doodle Tailings Impoundment 2023 Annual Inspection Report, KP Ref. No. VA101-126/29-4 Rev. 0, January 26, 2024.

Montana Resources, LLP. (MR) 2023a. Bathymetric Survey - 2023, August 8, 2023

Montana Resources, LLP. (MR) 2023b, 2022 Annual Inspection Report for Yankee Doodle Tailings Impoundment and Corrective Action Plan for Recommendations. January 20, 2023

**ATTACHMENT A:**

**Engineer of Record (EOR) Verification**

I have reviewed and verify that the corrective actions proposed by MR should reasonably be expected to effectively address the recommendations contained in the 2023 Annual Inspection Report.

Reviewed:

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Daniel Fontaine, P.E.  
Specialist Engineer | Associate  
Knight Piésold Ltd.  
YDTI Engineer of Record