

November 21, 2023

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Dear Mark,

RE: Q3 2023 – YDTI Tailings and Water Data Summary

1.0 INTRODUCTION

This letter presents a summary of select tailings and water data related to the Montana Resources, LLC (MR) Yankee Doodle Tailings Impoundment (YDTI) from the third quarter (Q3) of 2023. The purpose of this letter is to review the monitoring records associated with the YDTI tailings and water management systems and identify if any operational changes are recommended. The Q3 letter includes a summary of the following data:

- YDTI supernatant pond elevation and surveyed pond volume
- Tailings beach elevations at the discharge points
- Silver Lake Water System (SLWS) flowrates
- Horseshoe Bend (HsB) Weir flowrates
- Seep 10 flowrates
- West Embankment Drain (WED) Extraction Pond flowrates

A photo log showing the current condition of the various water management systems is attached to this quarterly report. The photos were collected as part of the site visit that were conducted by Knight Piésold Ltd. (KP) and MR from August 29 to 31, 2023.

2.0 YDTI SUPERNATANT POND

2.1 POND WATER ELEVATION

MR currently collects manual measurements of the YDTI supernatant pond elevation monthly. The frequency of pond elevation measurement was reduced in August 2023 from weekly because monthly recordings were considered more practical and sufficient for normal operational monitoring purposes. The reduction in monitoring frequency does not impact the data analysis performed for this letter.

The final pond water elevation recorded during the Q3 monitoring period was 6359.2 ft on October 4, 2023, which equates to a pond elevation decrease of approximately 3.6 ft during Q3 2023. The largest single-month pond elevation change in Q3 occurred in July with a decrease of approximately 3.5 ft. This decrease is mainly attributed to the dry summer weather conditions and Pilot Project operations as there was more removal of supernatant pond water during July compared to August and September. Monthly pond water elevations from 2018 through Q3 2023 are presented on Figure 2.1.

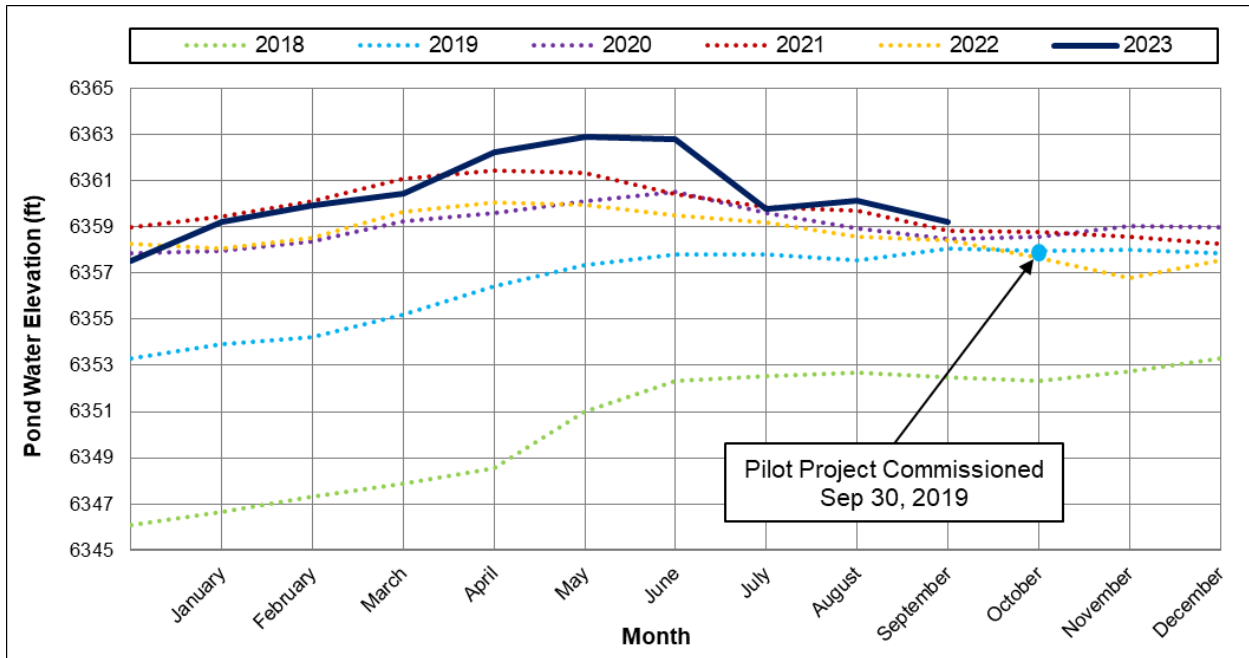


Figure 2.1 Monthly YDTI Pond Water Elevation

2.2 PILOT PROJECT DISCHARGE

The supernatant pond elevation rate of rise (or decrease) has been affected over the past several years by MR discharging YDTI water off-site via the Polishing Plant as part of their commitment to reducing the YDTI pond volume to approximately 15,000 acre-ft.

The YDTI supernatant pond had a net volume deficit of approximately 40 million gallons (120 acre-ft) of water in Q3. Approximately 230 million gallons (710 acre-ft) of treated Berkeley Pit water was discharged into the YDTI and 270 million gallons (830 acre-ft) of YDTI water was discharged offsite during Q3. The quarterly flow records for the Berkeley Pit Pumping System, Polishing Plant discharge, and YDTI quarterly balance since the Pilot Project commissioning in 2019 are shown on Figure 2.2.

The net volume deficit is lower than the previous quarter due to discharge to Silver Bow Creek from the Polishing Plant being paused for approximately six weeks between July 31 through September 11, 2023. The pause was required due to naturally occurring high water temperatures in Silver Bow Creek, which limited the ability to discharge water from the YDTI without exceeding permitted temperature limits in the creek.

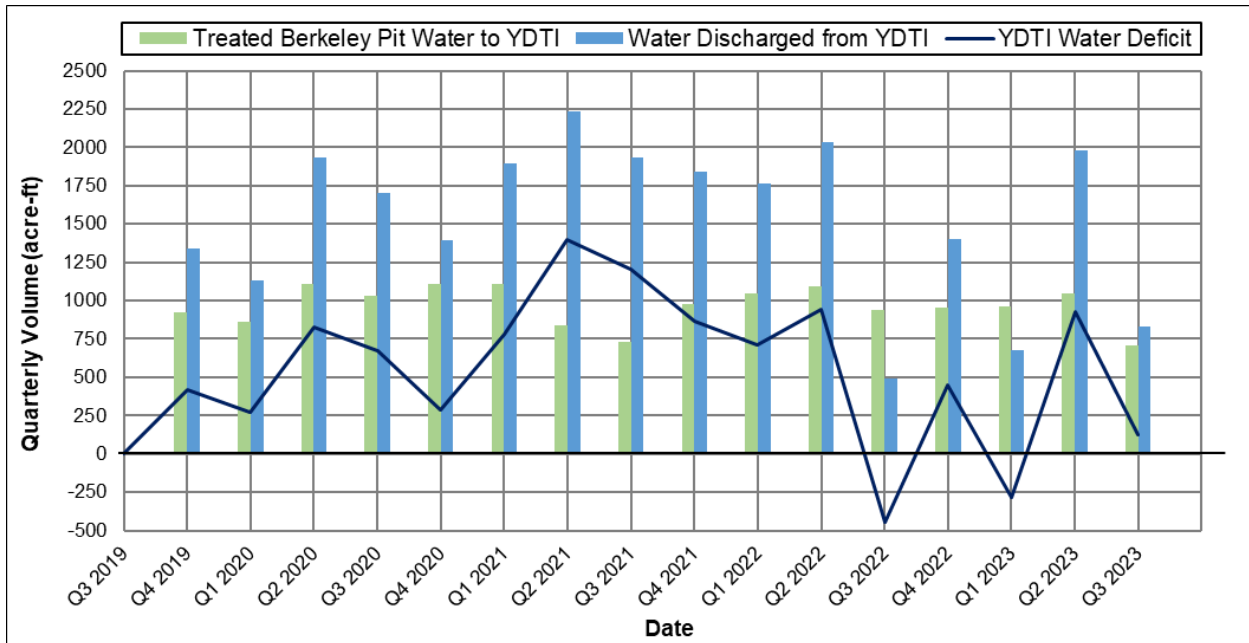


Figure 2.2 Berkeley Pit Pilot Project Flows - Quarterly Summary

2.3 2023 BATHYMETRIC SURVEY

The 2023 annual bathymetric survey and assessment of the YDTI supernatant pond volume was undertaken from July 10 through 12, 2023. Evaluation of the survey data indicates an estimated YDTI pond volume of approximately 17,200 acre-ft. This volume corresponds to a 4,300 acre-ft (20%) decrease in estimated pond volume compared to the previous bathymetric survey completed from June 28 through 30, 2022.

The pond surface area was estimated to be approximately 445 acres, which corresponds to a decrease of approximately 35 acres (7%) compared to the 2022 survey. Further analysis of the bathymetric survey data and comparison with previous survey parameters will be presented in the 2023 Data Analysis Report, which will be prepared in early 2024.

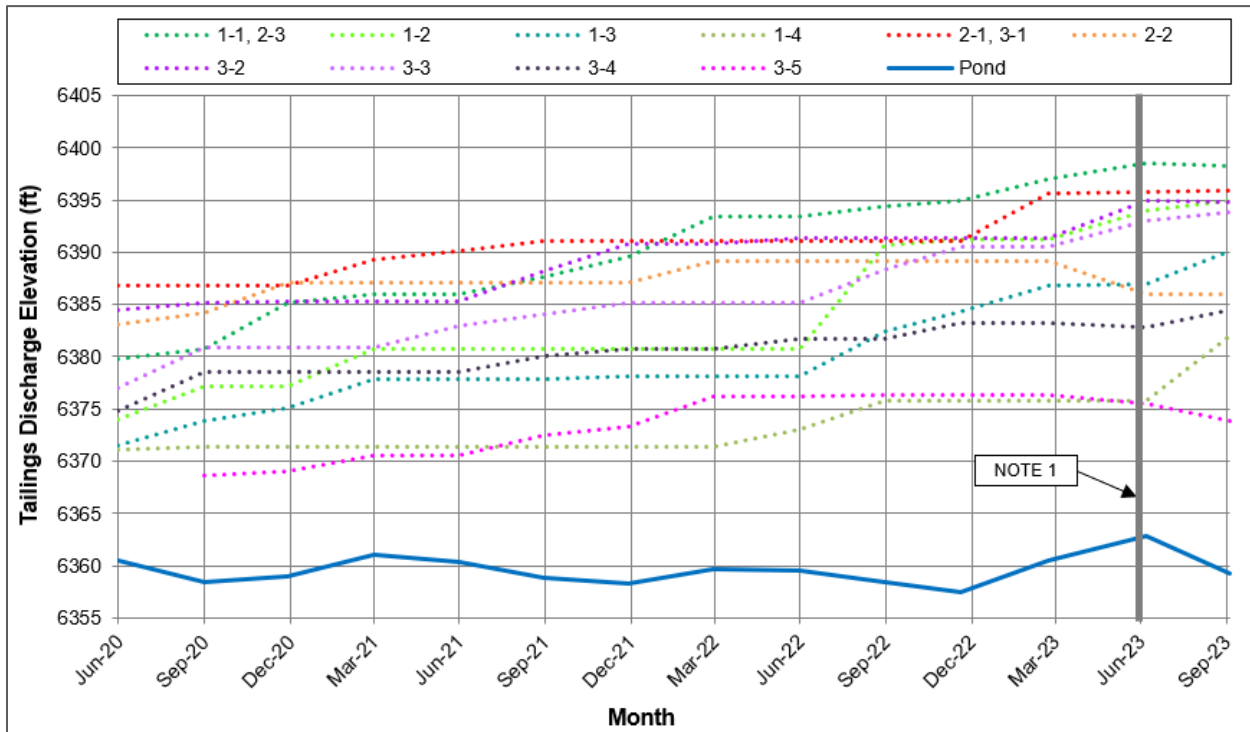
3.0 YDTI TAILINGS BEACH

3.1 TAILINGS DISCHARGE LOCATIONS AND BEACH ELEVATIONS

Tailings discharge records indicate that tailings were distributed from all three YDTI embankments during Q3 2023, with one of the ten 26-inch discharge locations and all three of the 12-inch discharge lines being used. The tailings discharge locations are shown on Figure 3.1, and the quarterly tailings beach elevations at each of the discharge locations are shown on Figure 3.2.



Figure 3.1 YDTI Tailings Discharge Locations



Note(s):

1. A drone flyover was used to survey the tailings beach elevations from August 2023 onwards. The location of the tailings discharge points are estimated from drone photos and may differ slightly from previous manual survey locations.
2. The location of discharge 1-4 was not recorded in Q2 2023. The elevation increase shown during Q3 2023 therefore may have occurred over a longer time period than presented.

Figure 3.2 Tailings Discharge Elevations

3.2 TAILINGS BEACH LENGTH

Images captured by the Sentinel-2 satellite are reviewed twice per month to remotely observe the shape of the tailings beach and position of the supernatant pond relative to the embankments. The shortest beach length was observed at the northern end of the North-South Embankment at the end of Q3 and estimated to be approximately 1,400 ft. This beach length is approximately 350 ft longer than the end-of-Q2 2023 beach length. The increase in beach length is largely attributed to the exposure of a larger sub-aerial beach on the northern end of the North-South Embankment as a result of the supernatant pond elevation decrease.

An overview of the facility observed from the Sentinel-2 satellite images near the end of July, August, and September 2023 are presented in the attached figures. The elevations indicated on the end-of-September 2023 figure were obtained from the drone survey discussed in the previous section.

4.0 SILVER LAKE WATER SUPPLY SYSTEM FLOWRATE

Water from the Silver Lake Water System (SLWS) is used to meet both the operational freshwater and make-up water requirements. SLWS flows in Q3 2023 averaged approximately 700 gpm (1.0 Mgd), which is similar to the target SLWS flowrate. Average monthly SLWS flowrates from 2019 through Q3 2023 are shown on Figure 4.1.

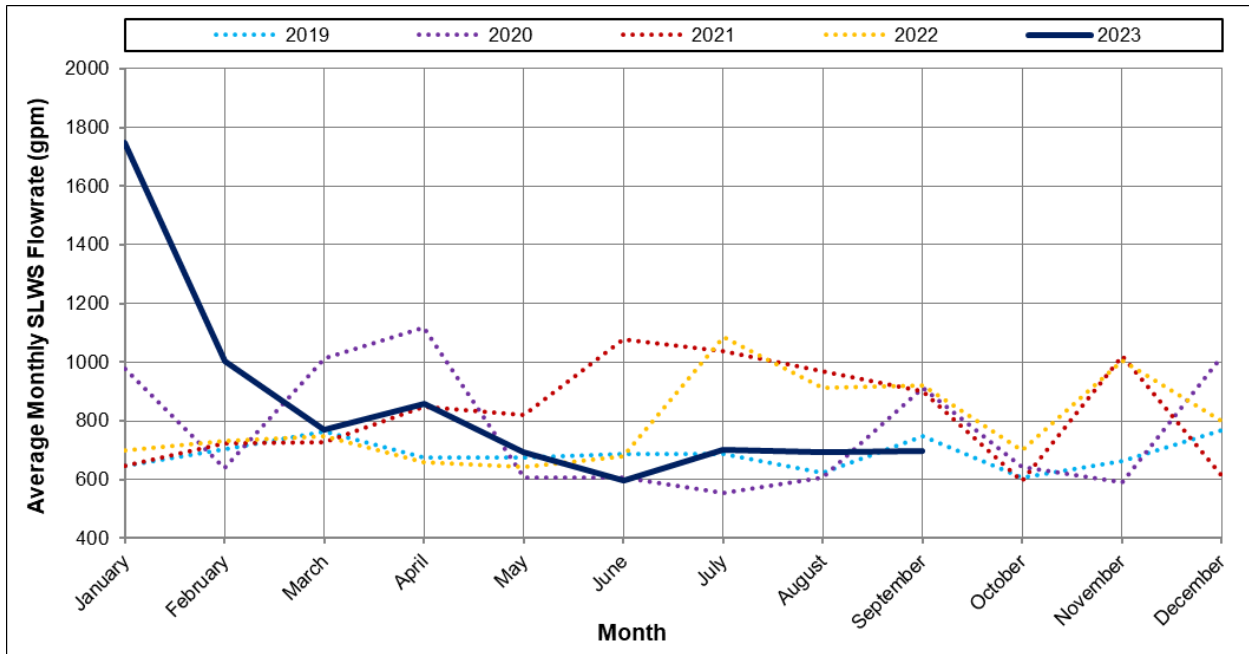


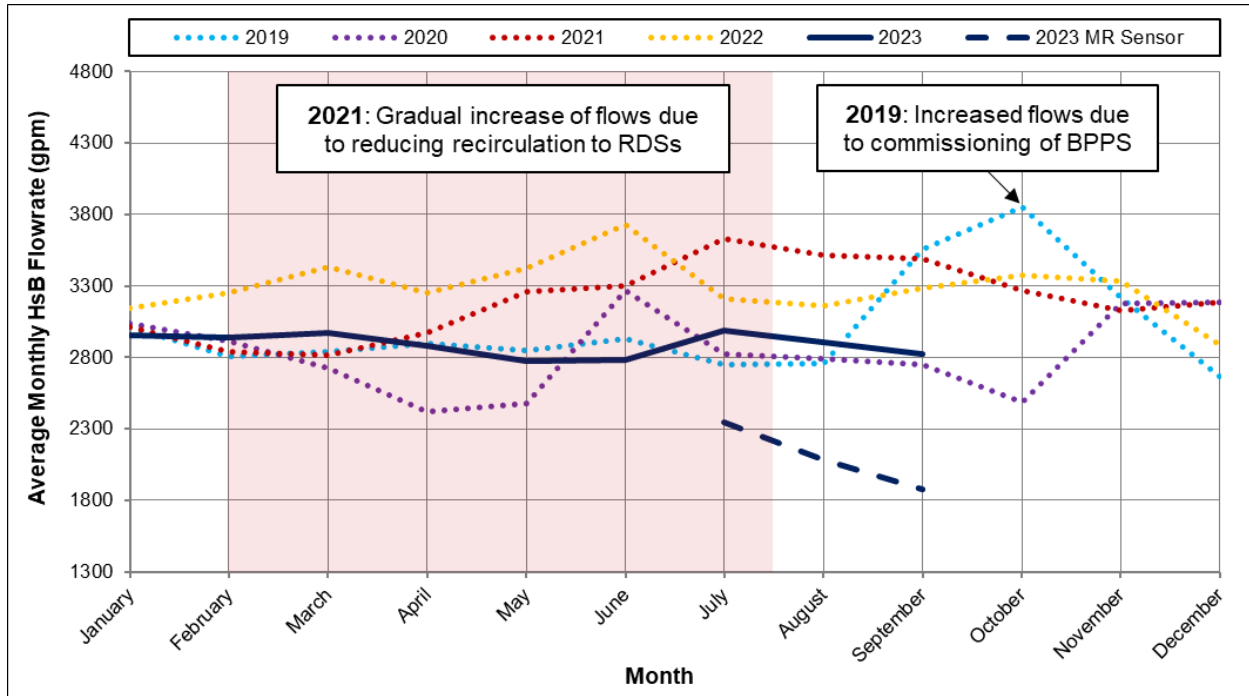
Figure 4.1 Average Monthly SLWS Flowrate

5.0 HSB WEIR FLOWRATE

The HsB Weir records the flow of surface water discharging from the HsB area via the HsB Pond. The flows include YDTI seepage and meteoric inputs from the contributing catchment areas. Seepage from the YDTI flows south through the HsB area and joins with localized surface runoff in the HsB Pond before passing over the HsB Weir. The flow depth over the weir is measured continuously using two independent ultrasonic lookdown sensors located upstream of the weir. One sensor is maintained by the Montana Bureau of Mines and Geology (MBMG) and the second sensor, which became operational from July 2023, is maintained by MR. MR installed their sensor to enable remote continuous monitoring of the HsB flow data. An image of the flow through the HsB Weir on August 29, 2023 is presented in Appendix A – Photo 1.

Comparison of the data from both sensors identified a discrepancy between the two flow depth measurements, with the MBMG sensor measuring slightly deeper water depths passing over the weir. The deeper water level measurement resulted in MBMG flowrates approximately 700 gpm greater than the MR sensor data. Further review of flow measurement data in the HsB Water Treatment Plant (WTP) and the HsB Capture System (HsBCS) downstream of the weir supports the finding that the MR sensor data is the most accurate. Average monthly HsB Weir flowrates as measured by the MBMG and MR sensors are both presented on Figure 5.1. The flow analysis presented below is based on the data collected by the MR sensor.

The average flowrate during Q3 2023 was approximately 2,210 gpm, which is similar to the average flowrate measured in Q1 and Q2 2023 and approximately 280 gpm (9%) lower than the average Q3 flowrate since recirculation of leach solutions to the rock disposal sites (RDSs) ceased in Q3 2021. This data indicates that the HsB Weir flowrates may be returning to a steady state since recirculation of leach solutions ceased however a longer period of data is required before this can be confirmed. KP will continue monitoring flows through the HsB Weir using data from both sensors at this time.



Note(s):

1. The MBMG data presented is not adjusted for the estimated error of 700 gpm.

Figure 5.1 Average Monthly HsB Weir Flowrate

6.0 SEEP 10 FLOWRATE

The Number 10 Seeps (Seep 10) daylight on the EL. 5,900 ft bench above the HsB seepage collection area. The seepage is collected in a small pond on the top of the EL. 5,900 ft bench and is routed to the HsB seepage collection area via a pipe. The Seep 10 flows are measured using an ultrasonic lookdown level sensor that automatically measures the stilling pond level near the weir. Images of the Seep 10 stilling pond taken on August 30, 2023 are presented in Appendix A – Photos 2 and 3.

The average monthly Seep 10 flowrates from 2019 through Q3 2023 are presented on Figure 6.1. The flowrates during Q3 2023 were on average approximately 17% (23 gpm) higher compared to Q3 over the past three years. This increased is largely attributed to a higher-than-average amount of precipitation during Q3 2023 compared to Q3 over the past decade.

The Seep 10 level sensor was disconnected on September 8, 2023 due to construction of a new Seep 10 system. The flow records from September 8, 2023 to the end of Q3 2023 were excluded from this data analysis.

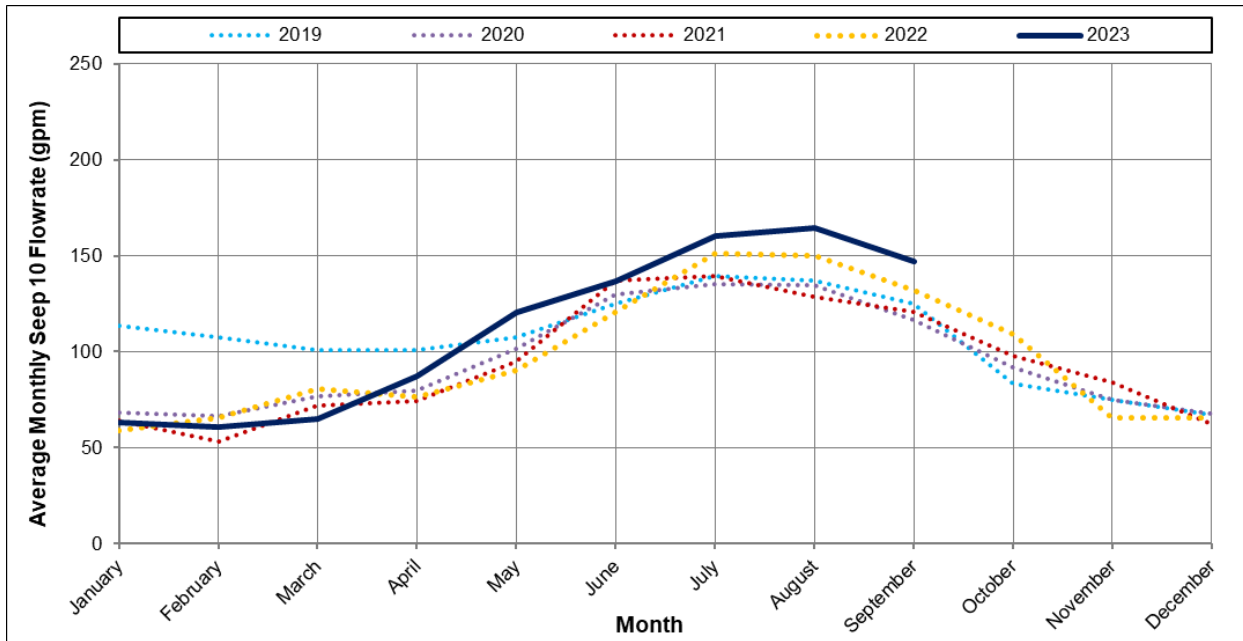


Figure 6.1 Average Monthly Seep 10 Weir Flowrate

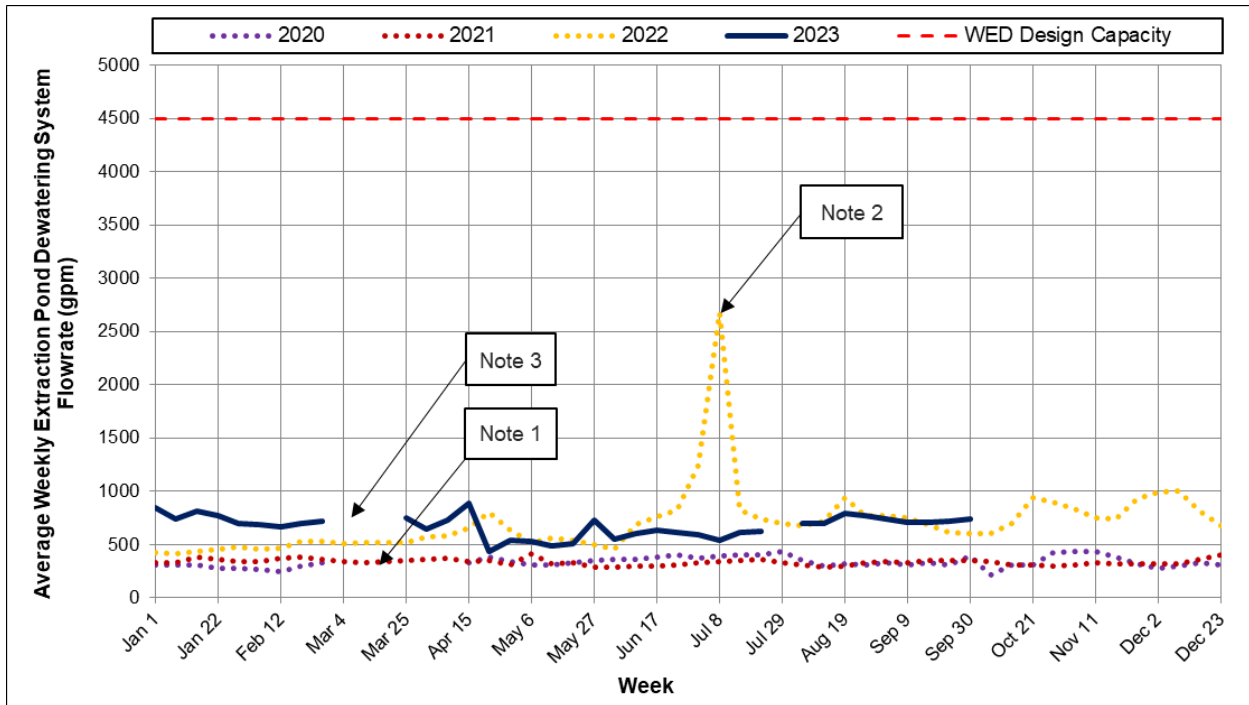
7.0 WED EXTRACTION POND DEWATERING SYSTEM

Water collected in the WED flows by gravity into the Extraction Pond and is pumped to the YDTI via the Extraction Pond Dewatering System. The flows are measured using an inline totalizing flowmeter. An image of the WED Extraction Pond and Dewatering System taken on August 30, 2023 is presented in Appendix A – Photo 4. The average weekly flowrates for the Extraction Pond Dewatering System since it began operating on November 20, 2019, are presented Figure 7.1.

The average daily flowrate during Q3 2023 was 690 gpm, which is approximately 130 gpm (16%) less than the WED daily average flowrate measured in Q1 through Q2 2023. The flowrates measured during Q3 2023 were comparable to the average daily pump rates measured since Q2 2022.

The WED average weekly pumping rates ranged between 300 to 500 gpm for the first two years of operation and increased in early 2022 to range between 500 to 1,000 gpm. The increased flowrates recorded since early to mid-2022 are attributed to the discharge of tailings overtop of the historical tailings pipeline corridor for the EL. 6,400 ft lift of the West Embankment causing increased infiltration of tailings water into the WED.

MR and KP anticipate the WED pumping rates will continue to vary throughout the year in the short-term depending on tailings discharge practices and may slowly decrease over time as the tailings beach thickness increases above the EL. 6,400 ft pipeline corridor bench. MR have been closely monitoring the daily pump data records and conducting regular visual inspections of the tailings beach adjacent to the West Embankment. No adverse conditions have been observed to date. MR will continue to regularly monitor the tailings discharges in this area and associated changes in pumping rates required to maintain dewatering of the Extraction Pond.



Note(s):

1. Erroneous data caused by pump cycling from March to April 2020 were removed.
2. The average weekly Extraction Pond Dewatering System flowrate peaked July 9 to 15, 2022. This high flowrate is attributed to a single event on July 9 associated with power outages and subsequent increase in pumping rate to reduce the WED pond elevation.
3. Erroneous data suspected to be due to a flowmeter error from March 4 to 18, 2023 were removed.

Figure 7.1 Average Weekly Extraction Pond Dewatering System Flowrate

8.0 SUMMARY

The following observations were derived from the analysis of the Q3 2023 YDTI water data records:

- The YDTI supernatant pond elevation decreased by approximately 3.6 ft in Q3 2023.
- Operation of the Pilot Project resulted in a net volume deficit of approximately 40 million gallons (123 acre-ft) of YDTI supernatant pond water.
- SLWS flows averaged 700 gpm (1.0 Mgalpd), which is similar to the target flowrate.
- HsB Weir flowrates averaged approximately 2,210 gpm in Q3, which is similar to the average flowrate since recirculation of leach solutions to the RDSs ceased.
- Seep 10 flowrates were on average approximately 17% (23 gpm) higher compared to Q3 over the past three years. This is inferred to be attributed to greater-than-normal rainfall events. The Seep 10 level sensor was disconnected on September 8, 2023 due to construction of a new Seep 10 system.
- WED Extraction Pond Dewatering System average daily flowrates continued to be elevated above pumping rates from 2020 through 2021. The Q3 2023 average daily pump rate of 690 gpm is comparable to the average daily pump rates measured since Q2 2022. MR and KP continue to monitor these flows closely.

We trust that this letter meets your needs at this time. Please do not hesitate to contact the undersigned with any questions.

Yours truly,
Knight Piésold Ltd.



Prepared:

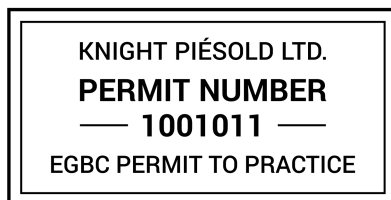
Cameron Ng, EIT
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Reviewed:

Roanna Dalton, P.Eng.
Specialist Engineer | Associate

Reviewed:

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



Approval that this document adheres to the Knight Piésold Quality System:

Attachments:

- Figure A.1 Rev 0 Tailings Beach Assessment – August 1, 2023
- Figure A.2 Rev 0 Tailings Beach Assessment – August 28, 2023
- Figure A.3 Rev 0 Tailings Beach Assessment – September 25, 2023
- Photo Log

References:

Montana Resources and Knight Piésold Ltd. (MR/KP, 2022). Yankee Doodle Tailings Impoundment – Tailings Operations, Maintenance and Surveillance (TOMS) Manual, Rev 5, dated January 2022.

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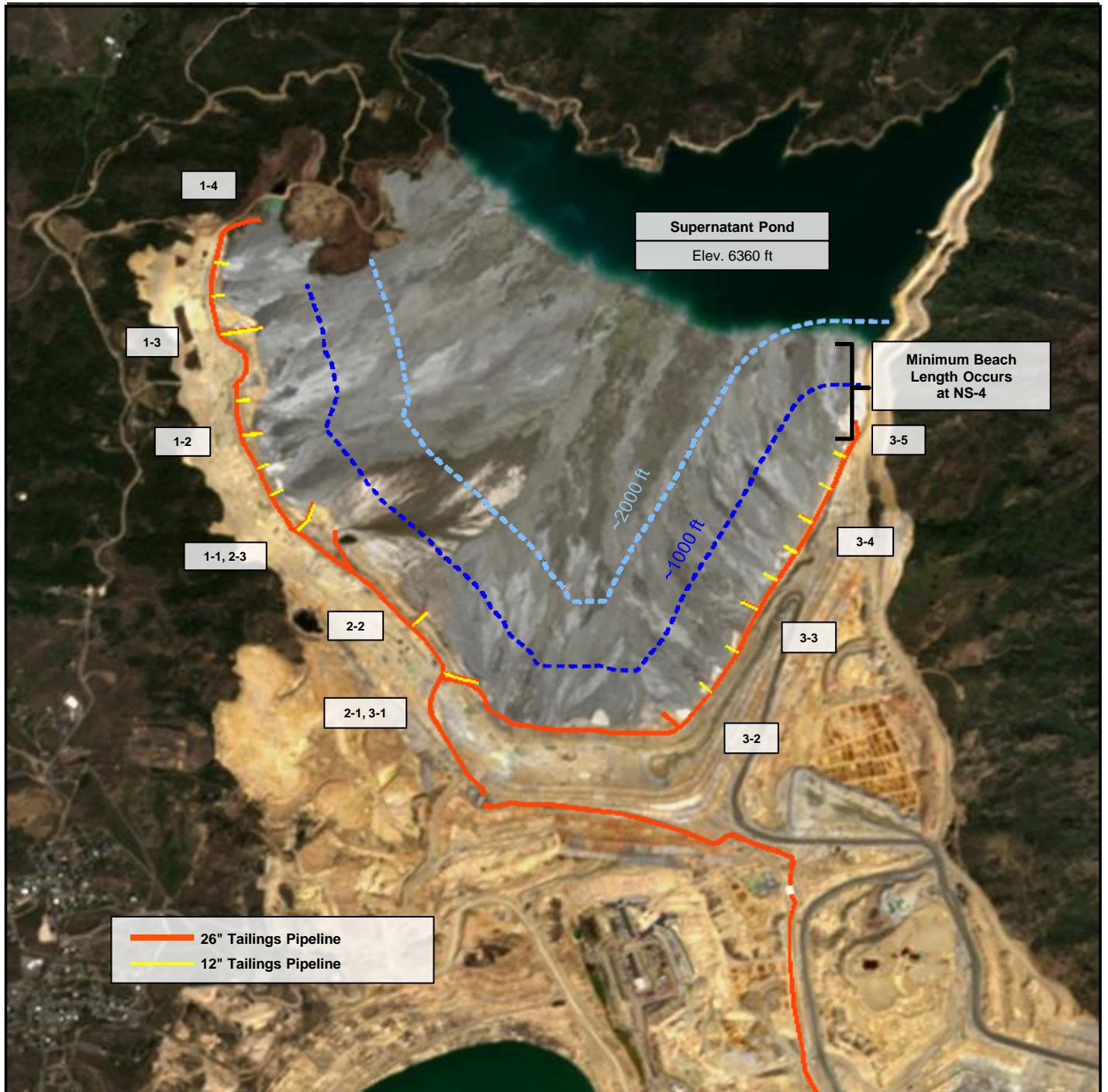


NOTES:

1. TAILINGS DISCHARGE ELEVATIONS WERE LAST SURVEYED BY DRONE FLYOVER ON JULY 6, 2023. SUPERNATANT POND ELEVATION WAS SURVEYED ON AUGUST 3, 2023. ALL ELEVATIONS ARE RELATIVE TO THE ANACONDA DATUM.
2. THE MINIMUM BEACH LENGTH AT THE NORTHERN EXTREMITY OF THE N-S EMBANKMENT IS MEASURED FROM THE TAILINGS BEACH AND UPSTREAM EMBANKMENT INTERFACE, AT THE INTERSECTION OF THE N-S EMBANKMENT AND NATURAL TOPOGRAPHY OF RAMPART MOUNTAIN, TO THE TAILINGS BEACH AND POND SURFACE INTERFACE.
3. SENTINEL-2 VISIBLE SATELLITE IMAGE TAKEN ON AUGUST 1, 2023.


MONTANA RESOURCES, LLC.	
YANKEE DOODLE TAILINGS IMPOUNDMENT	
SENTINEL-2 SATELLITE IMAGERY TAILINGS BEACH ASSESSMENT AUGUST 1, 2023	
Knight Piésold CONSULTING	P/A NO. VA101-126/29
	REF. NO. VA23-01781
FIGURE A.1	

0	03NOV'23	ISSUED WITH LETTER	CNN	RSD
REV	DATE	DESCRIPTION	PREP'D	RVW'D



NOTES:

1. TAILINGS DISCHARGE ELEVATIONS WERE LAST SURVEYED BY DRONE FLYOVER ON JULY 6, 2023. SUPERNATANT POND ELEVATION WAS SURVEYED ON SEPTEMBER 6, 2023. ALL ELEVATIONS ARE RELATIVE TO THE ANACONDA DATUM.
2. THE MINIMUM BEACH LENGTH AT THE NORTHERN EXTREMITY OF THE N-S EMBANKMENT IS MEASURED FROM THE TAILINGS BEACH AND UPSTREAM EMBANKMENT INTERFACE, AT THE INTERSECTION OF THE N-S EMBANKMENT AND NATURAL TOPOGRAPHY OF RAMPART MOUNTAIN, TO THE TAILINGS BEACH AND POND SURFACE INTERFACE.
3. SENTINEL-2 VISIBLE SATELLITE IMAGE TAKEN ON AUGUST 28, 2023.


MONTANA RESOURCES, LLC.		
YANKEE DOODLE TAILINGS IMPOUNDMENT		
SENTINEL-2 SATELLITE IMAGERY TAILINGS BEACH ASSESSMENT AUGUST 28, 2023		
	P/A NO. VA101-126/29	REF. NO. VA23-01781
	FIGURE A.2	

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REV	DATE	DESCRIPTION	PREP'D	RVW'D



NOTES:

1. TAILINGS DISCHARGE AND SUPERNATANT POND ELEVATIONS WERE SURVEYED BY DRONE FLYOVER ON OCTOBER 4, 2023. ALL ELEVATIONS ARE RELATIVE TO THE ANACONDA DATUM.
2. THE MINIMUM BEACH LENGTH AT THE NORTHERN EXTREMITY OF THE N-S EMBANKMENT IS MEASURED FROM THE TAILINGS BEACH AND UPSTREAM EMBANKMENT INTERFACE, AT THE INTERSECTION OF THE N-S EMBANKMENT AND NATURAL TOPOGRAPHY OF RAMPART MOUNTAIN, TO THE TAILINGS BEACH AND POND SURFACE INTERFACE.
3. SENTINEL-2 VISIBLE SATELLITE IMAGE TAKEN ON SEPTEMBER 25, 2023.

MONTANA RESOURCES, LLC.				
YANKEE DOODLE TAILINGS IMPOUNDMENT				
SENTINEL-2 SATELLITE IMAGERY TAILINGS BEACH ASSESSMENT SEPTEMBER 25, 2023				
	P/A NO. VA101-126/29	REF. NO. VA23-01781		
	FIGURE A.3			
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REV	DATE	DESCRIPTION	PREP'D	RVV'W'D

Q3 2023 – YDTI QUARTERLY WATER DATA SUMMARY PHOTO LOG



PHOTO 1 – August 29, 2023 – BPPS Transfer Pond (left) and HsB Weir (right).



PHOTO 2 – August 30, 2023 – Seep 10 Stilling Pond.

Q3 2023 – YDTI QUARTERLY WATER DATA SUMMARY PHOTO LOG



PHOTO 3 – August 30, 2023 – Seep 10 Weir.



PHOTO 4 – August 30, 2023 – WED Extraction Pond and Dewatering System.