

June 5, 2023

Mr. Mark Thompson
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Dear Mark,

RE: Q1 2023 – YDTI Quarterly Water Data Summary

1.0 INTRODUCTION

This letter presents a summary of select water management data related to the Montana Resources, LLC (MR) Yankee Doodle Tailings Impoundment (YDTI) from the first quarter (Q1) of 2023, including January 1 to March 31, 2023. The purpose of this letter is to review the monitoring records associated with the YDTI water management systems and identify if any operational changes are recommended. The Q1 letter includes a summary of data related to the following:

- YDTI supernatant pond elevation
- 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 a part of the site visits that were conducted by Knight Piésold Ltd. (KP) and MR on March 1 and 2, 2023.

2.0 YDTI SUPERNATANT POND

2.1 POND WATER ELEVATION

MR manually measures the YDTI supernatant pond elevation on a weekly basis. The final pond water elevation recorded during the Q1 monitoring period was 6,360.44 ft on March 23, 2023. This measurement equates to a pond elevation increase of approximately 2.9 ft during Q1 2023. The monthly pond water elevations from 2018 through Q1 2023 are presented on Figure 2.1. The supernatant pond elevation rate of rise (or decrease) is currently affected 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. A more detailed description of the Pilot Project and Polishing Plant is presented in the Tailings Operations, Maintenance and Surveillance Manual (MR/KP, 2022).

The Q1 supernatant pond elevation increase is approximately 1.3 ft greater than the average increase observed in Q1 over the past three years. This increased rate of elevation increase is mainly attributed to

a reduction in the Pilot Project discharge flowrate as detailed in Section 2.2. The monthly pond water elevations from 2018 through Q1 2023 are presented on Figure 2.1.

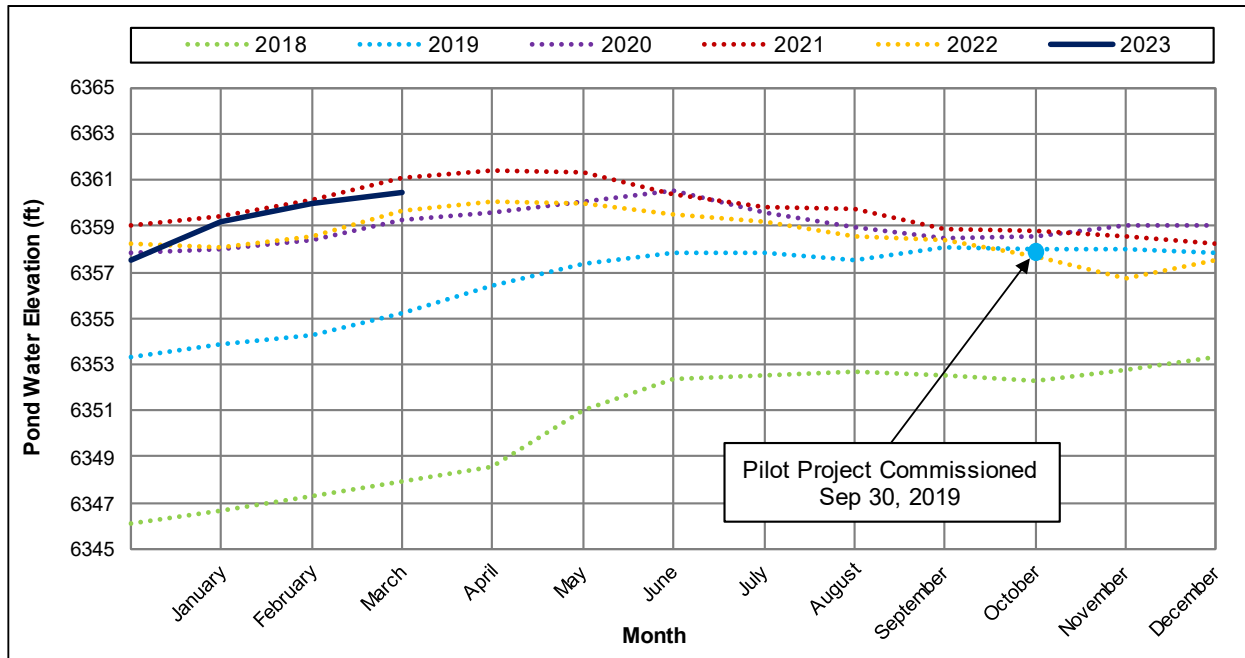


Figure 2.1 Monthly YDTI Pond Water Elevation

2.2 PILOT PROJECT DISCHARGE

The YDTI supernatant pond had a net gain of approximately 93 million gallons (284 acre-ft) of water in Q1. Approximately 313 million gallons (960 acre-ft) of treated Berkeley Pit water were discharged into the YDTI and 220 gallons (676 acre-ft) of YDTI water were discharged off-site during Q1. This is the second quarter since the Pilot Project commissioning during which the YDTI experienced a net volume gain instead of a volume deficit. The amount of water discharged is less than the amount of water introduced during Q1 because of issues with the Reclaim Water pumps, which were not able to provide enough water to meet Mill and Polishing Plant demands.

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.

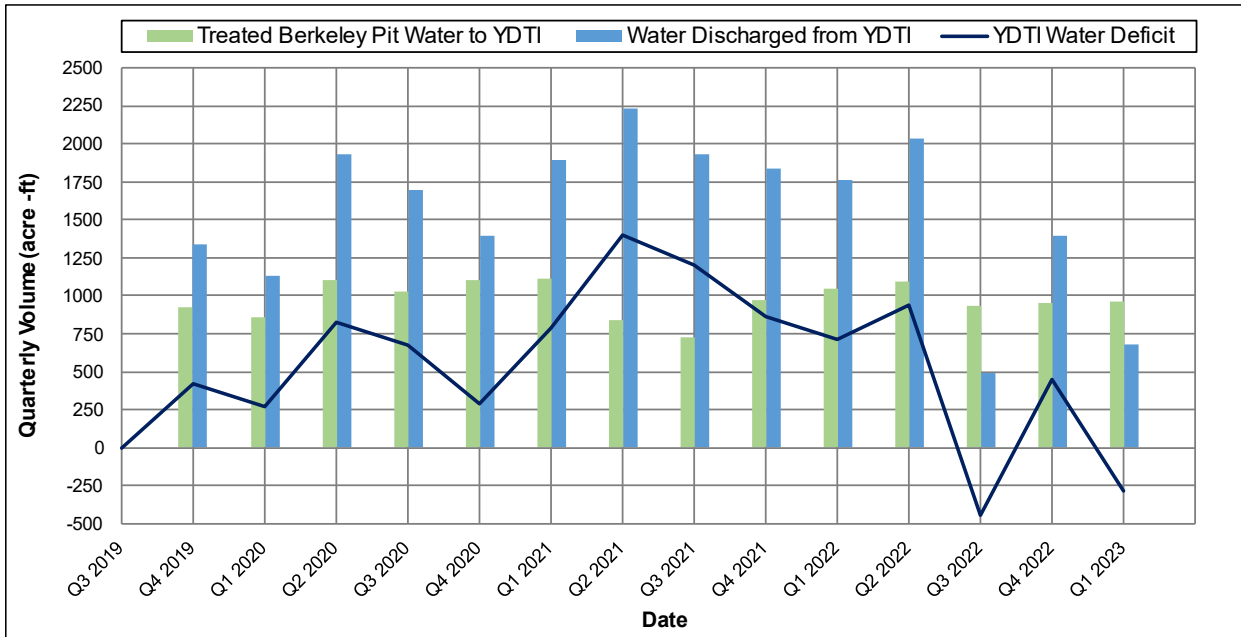


Figure 2.2 Berkeley Pit Pilot Project Flows – Quarterly Summary

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 Q1 2023, with six of the ten 26-inch discharge locations and none of the 12-inch discharge lines being used. The tailings discharge locations are shown on Figure 3.1, and the tailings beach elevations at each of the discharge locations are shown on Figure 3.2.

The discharge spigot with the lowest beach elevation was 1-4 throughout Q1 2023. The elevation difference between 1-4 and the supernatant pond surface was approximately 15.3 ft at the end of Q1 2023. The location of the lowest discharge point identifies the general area of the facility where the pond may initially contact the embankment in the event the pond elevation rises due to an increase in pond volume (e.g., flooding).



Figure 3.1 YDTI Tailings Discharge Locations

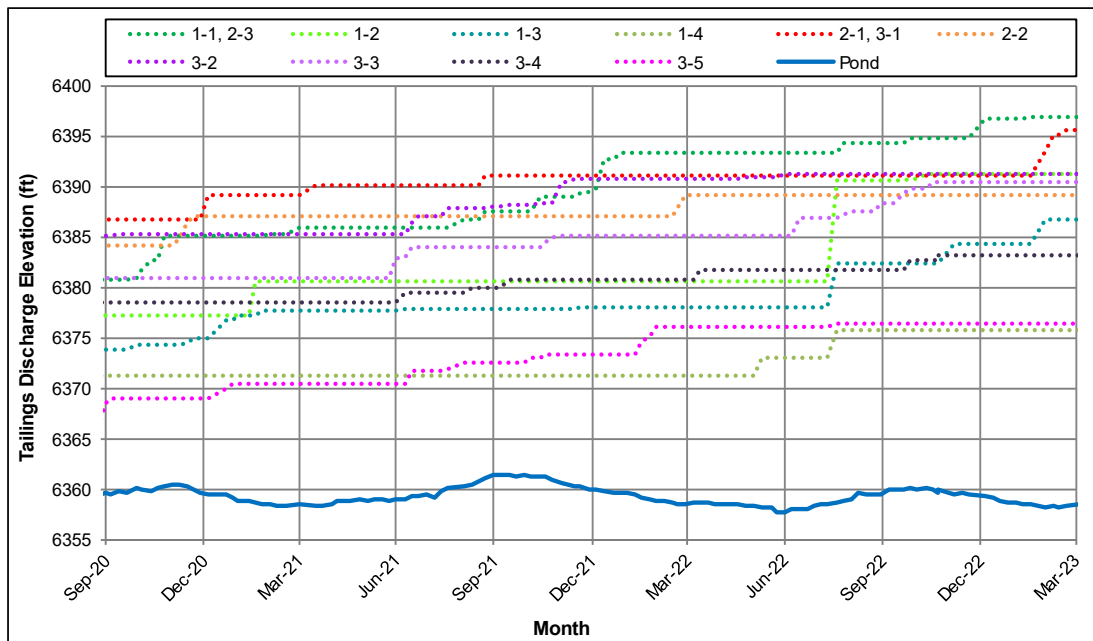


Figure 3.2 Tailings Discharge Elevations

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 and estimated to be approximately 1,450 ft at the end of Q1, which is approximately 100 ft shorter than the Q4 2022 beach length. This beach length was also observed in Q1 2021 when the supernatant pond water was at a similar elevation. The decreased beach length is attributed to the pond water elevation increasing and less beach being exposed as the beach/pond interface extends to the south. The pond/beach interface was partially obscured by snow and an ice cap, which may affect the minimum beach length estimation.

An overview of the facility observed from the Sentinel-2 satellite images near the end of January, February, and March 2023 are presented in the attached figures.

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 Q1 2023 averaged approximately 1,174 gpm (1.7 Mgalpd), which is a 0.7 Mgalpd (67%) increase compared to the average Q1 flowrate over the past five years. The increase in SLWS usage is mainly attributed to the following:

- Power issues at the Return Water barges in early January 2023
- Preparation for a ‘down day’ on March 15, 2023
- Increased operation of the molybdenum plant throughout Q1, which requires approximately 800 gpm (1.2 Mgalpd)

Average monthly SLWS flowrates from 2019 through Q1 2023 are shown on Figure 4.1.

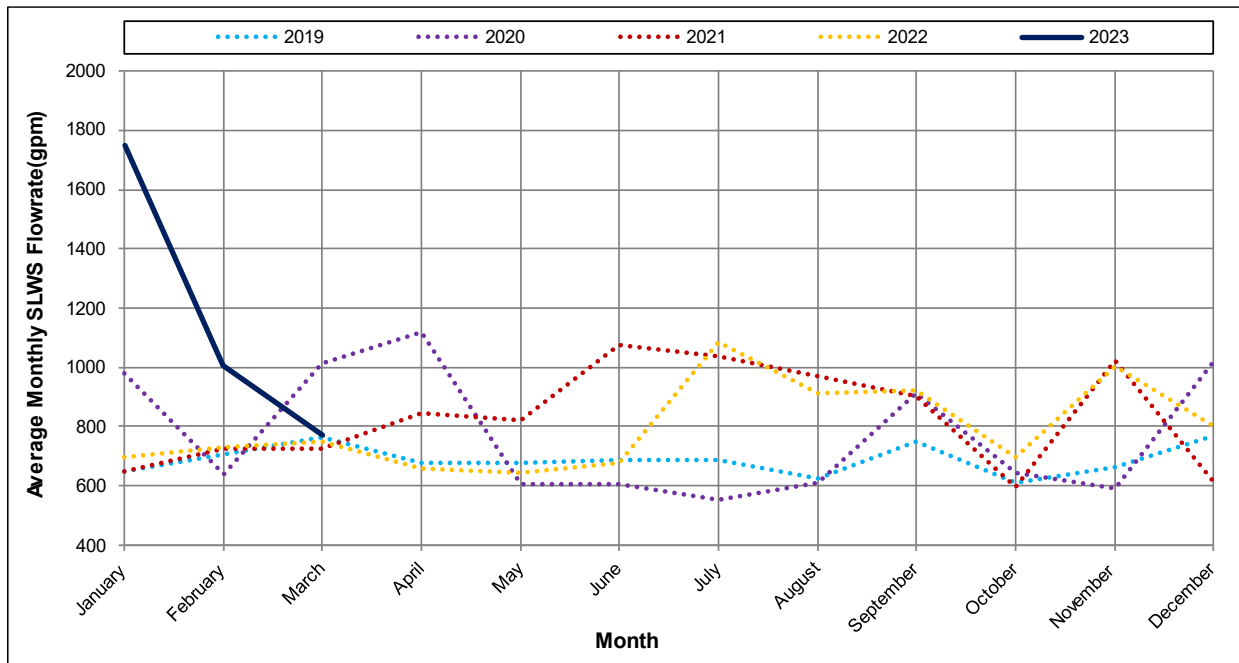


Figure 4.1 Average Monthly SLWS Flowrate

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, meteoric inputs from the contributing catchment areas, and any drain down from leach pads. 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 an ultrasonic lookdown level sensor located upstream of the weir. An image of the flow through the HsB Weir on March 1, 2023, is presented in Appendix A – Photo 1.

The average flowrate during Q1 2023 was approximately 2,960 gpm, which is approximately 310 gpm (9%) lower than the average flowrate since recirculation of leach solutions flows to the rock disposal sites (RDSs) ceased in Q3 2021. This decrease in flowrate is inferred to be caused by freezing temperatures during Q1. Average monthly HsB Weir flowrates are presented on Figure 5.1.

A new level sensor that records the flow depth passing over the HsB Weir was connected to MR’s remote monitoring system (Sensemetrics) in December 2022. Calibration of the sensor with the Sensemetrics software and program is ongoing. MR will begin using this data as the primary flow monitoring device once calibration is complete.

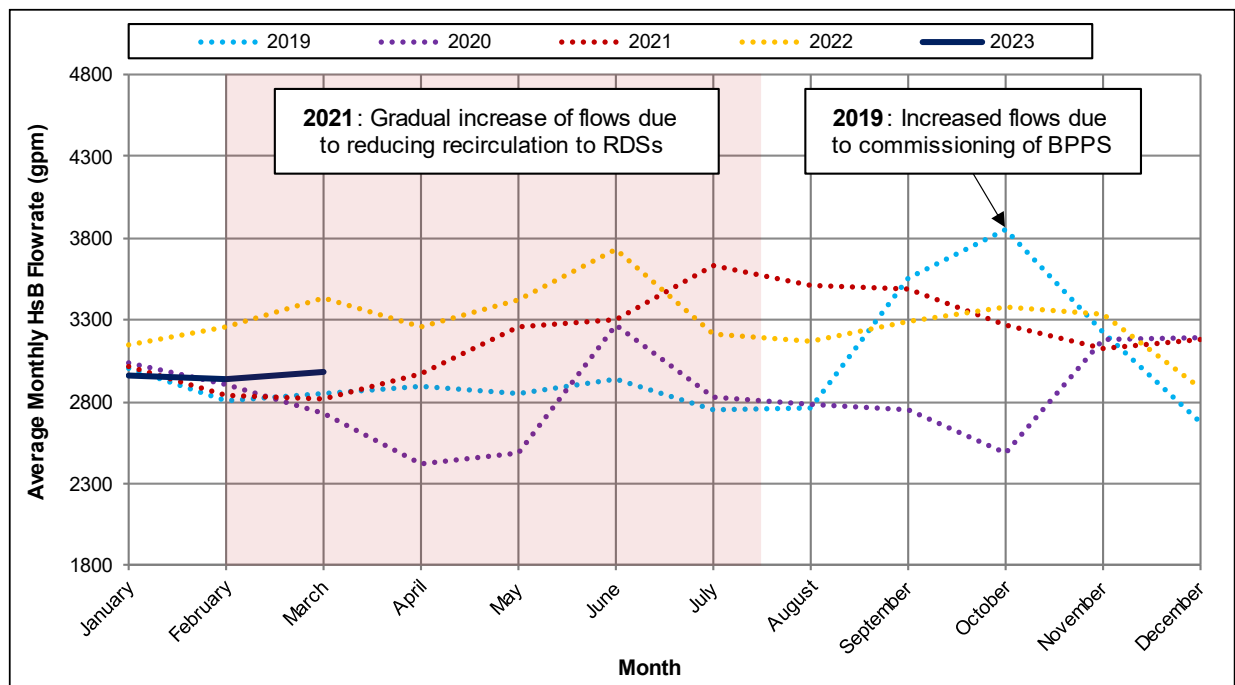


Figure 5.1 Average Monthly HsB Weir Flowrate

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 March 1, 2023, are presented in Appendix A – Photos 2 and 3.

The average monthly Seep 10 flowrates from 2019 through Q1 2023 are presented on Figure 6.1. The average flowrate during Q1 2023 follows the Q1 trend observed over the past three years.

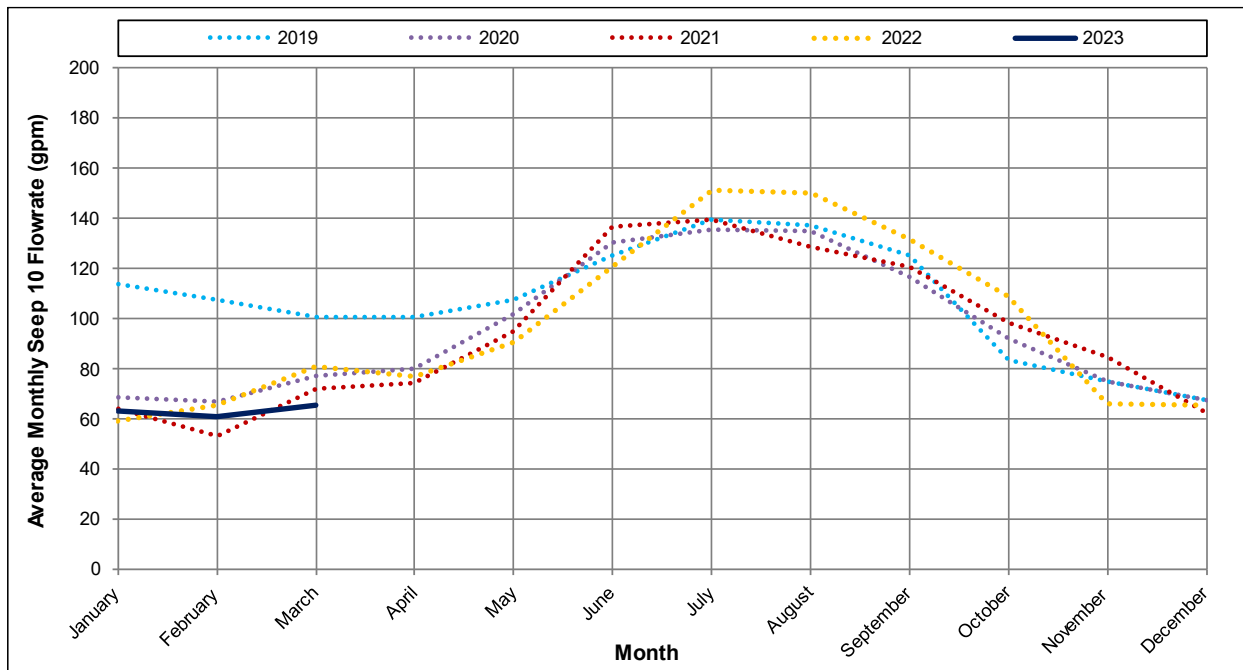


Figure 6.1 Average Monthly Seep 10 Weir Flowrate

7.0 WED EXTRACTION POND DEWATERING SYSTEM

The WED and several other seepage control features of the West Embankment are designed to maintain hydrodynamic containment of the YDTI seepage as the supernatant pond elevation rises. 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 March 1, 2023, is presented in Appendix A – Photo 4.

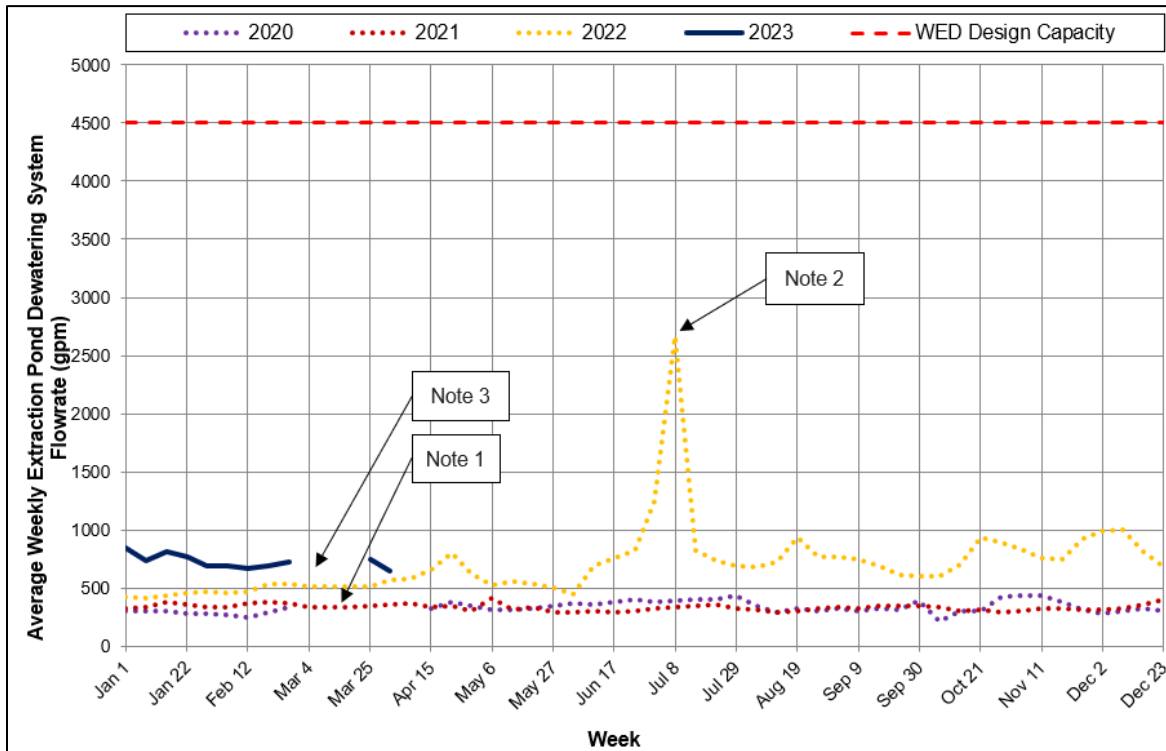
The average weekly flowrates for the Extraction Pond Dewatering System since it began operating on November 20, 2019, are presented on Figure 7.1. The WED average weekly pumping rate increased above historical values beginning in February 2022. The pumping rates have since ranged from approximately 600 to 1,000 gpm. A peak of approximately 2,000 gpm was observed in July 2022 due to power outages; another peak of approximately 3,000 gpm was observed in March 2023 and is attributed to a flowmeter error.

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. The tailings were initially discharged onto the pipeline corridor bench due to the rising tailings beach in the facility, which was inferred to cause increased infiltration of tailings water into the WED. Photo 7.1 shows the discharges adjacent to the West Embankment in March 2023. MR and KP anticipate the WED pumping rates will vary throughout the year 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 signs of tailings slurry flowing directly into the embankment or other

adverse conditions have been observed to date. MR will continue to regularly monitor the tailings discharges in this area and associated increases in pumping rates required to maintain dewatering of the Extraction Pond.



Photo 7.1 Tailings discharge adjacent to the West Embankment – March 1, 2023.



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 increased infiltration of tailings water into the WED.
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 CONCLUSIONS

The following observations were derived from the analysis of the Q1 2023 YDTI water data records:

- The YDTI supernatant pond elevation increased by approximately 2.9 ft in Q1 2023. The pond elevation increase during this period was affected by operation of the Pilot Project.
- Operation of the Pilot Project resulted in a net volume increase of approximately 93 million gallons (284 acre-ft) of YDTI supernatant pond water during Q1 2023. The amount of water introduced to the YDTI was greater than the amount removed due to issues with the reclaim pumping system.
- SLWS flows averaged approximately 1,174 gpm (1.7 Mgalpd) during Q1. The increased usage is attributed to power issues at the Return Water barges, preparation for a ‘down day’, and increased demand from molybdenum plant operations.
- HsB Weir flowrates averaged approximately 3,010 gpm in Q1, which is approximately 9% lower than the average since recirculation of leach solution to the RDSs ceased. This decrease in flows is attributed to freezing temperatures throughout Q1.
- WED Extraction Pond Dewatering System flowrates continued to be elevated above historical pumping rates during Q1, which is attributed to the rising tailings level and increased tailings slurry water being collected by the WED. 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: 

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Project Scientist

Prepared: 

Lena Choi, EIT
Project Engineer

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

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

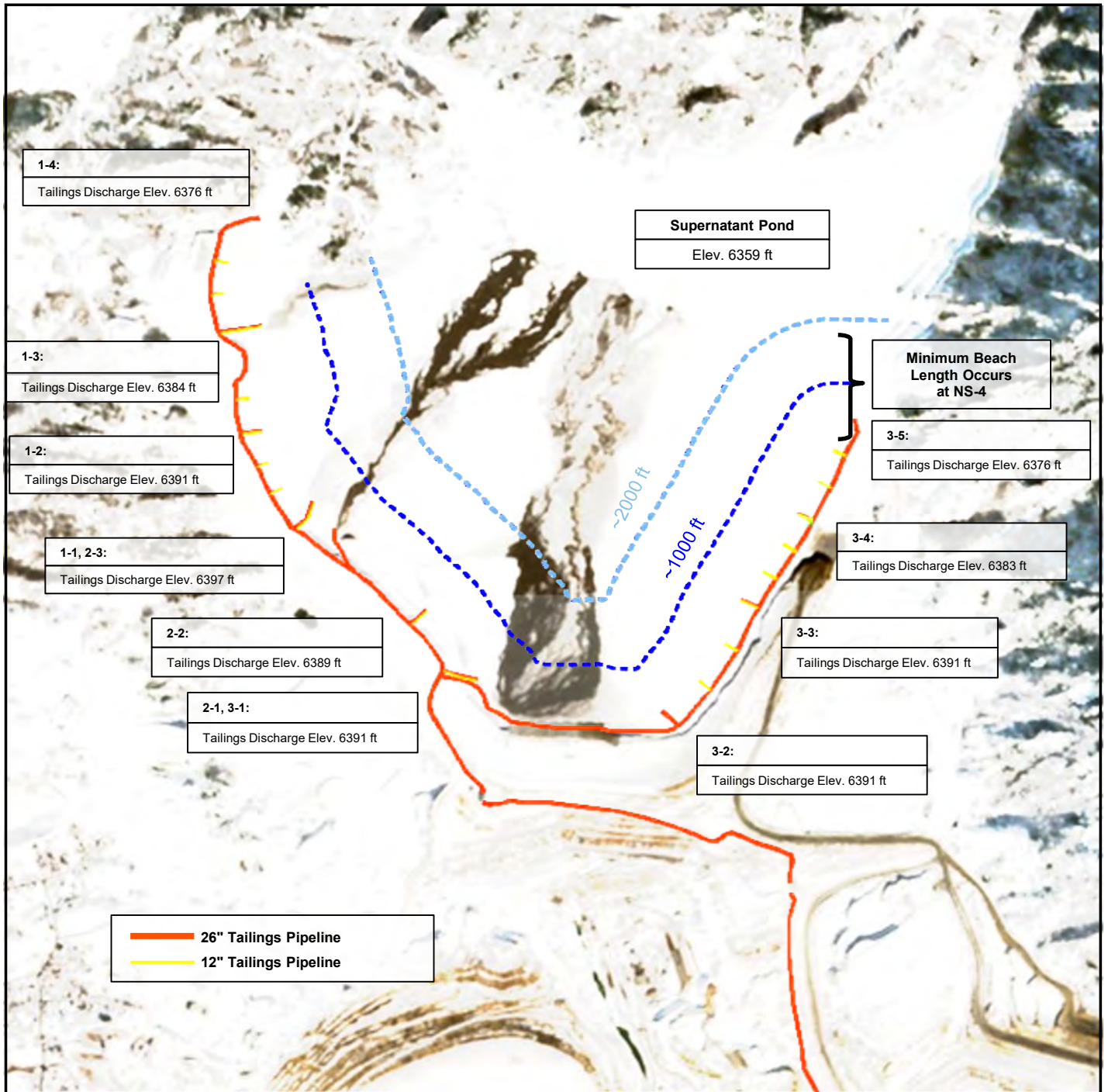
Attachments:

Figure A.1 Rev 0 Tailings Beach Assessment – January 27, 2023
Figure A.2 Rev 0 Tailings Beach Assessment – March 2, 2023
Figure A.3 Rev 0 Tailings Beach Assessment – April 3, 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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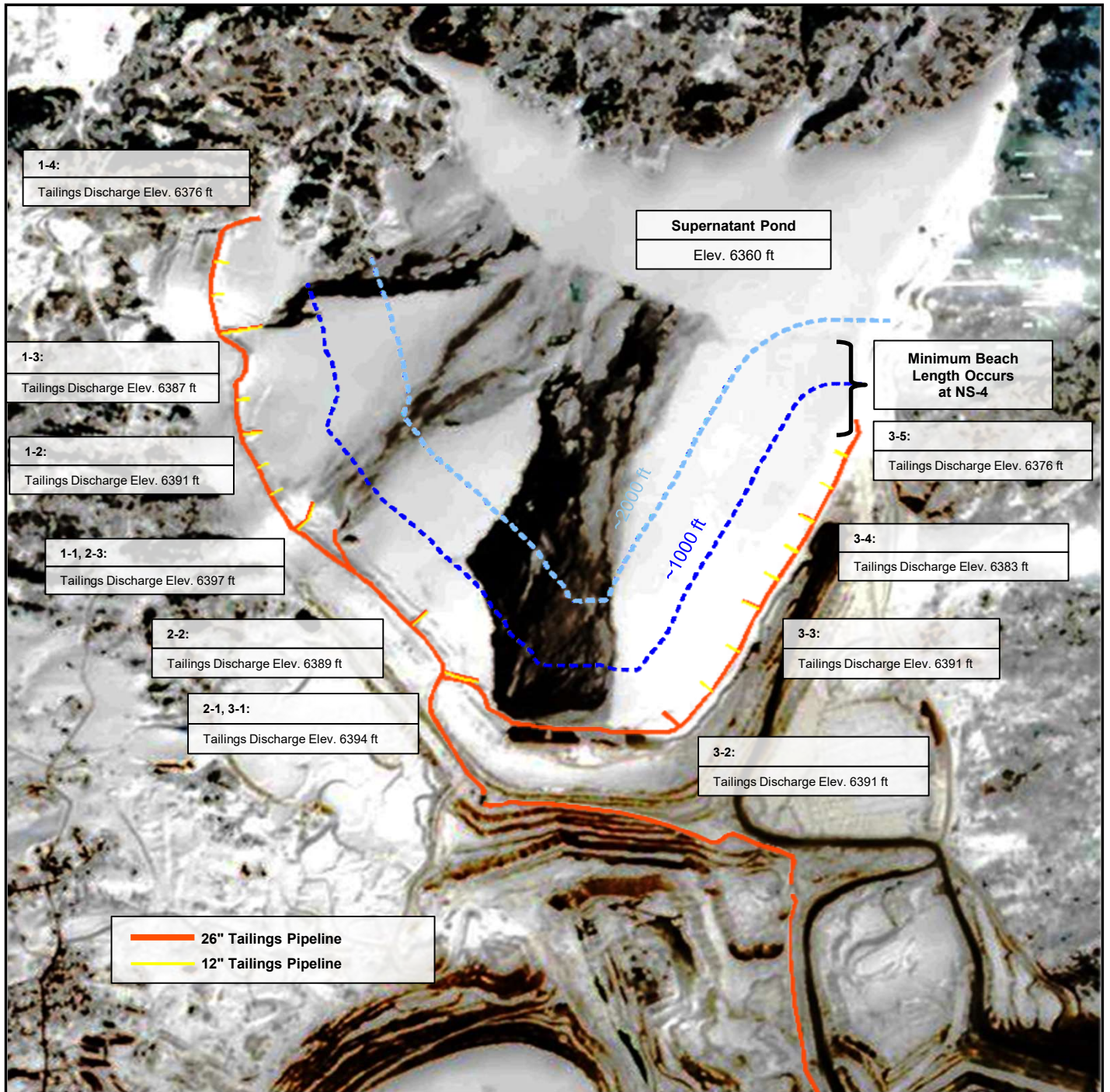


NOTES:

1. TAILINGS DISCHARGE AND SUPERNATANT POND ELEVATIONS WERE SURVEYED ON JANUARY 27, 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 FEBRUARY 9, 2023.


MONTANA RESOURCES, LLC.	
YANKEE DOODLE TAILINGS IMPOUNDMENT	
SENTINEL-2 SATELLITE IMAGERY TAILINGS BEACH ASSESSMENT JANUARY 27, 2023	
Knight Piesold CONSULTING	P/A NO. VA101-126/29
	REF. NO. VA23-00585
FIGURE A.1	
REV 0	

0	2JUN'23	ISSUED WITH LETTER	ACC	RSD
REV	DATE	DESCRIPTION	PREP'D	RVW'D

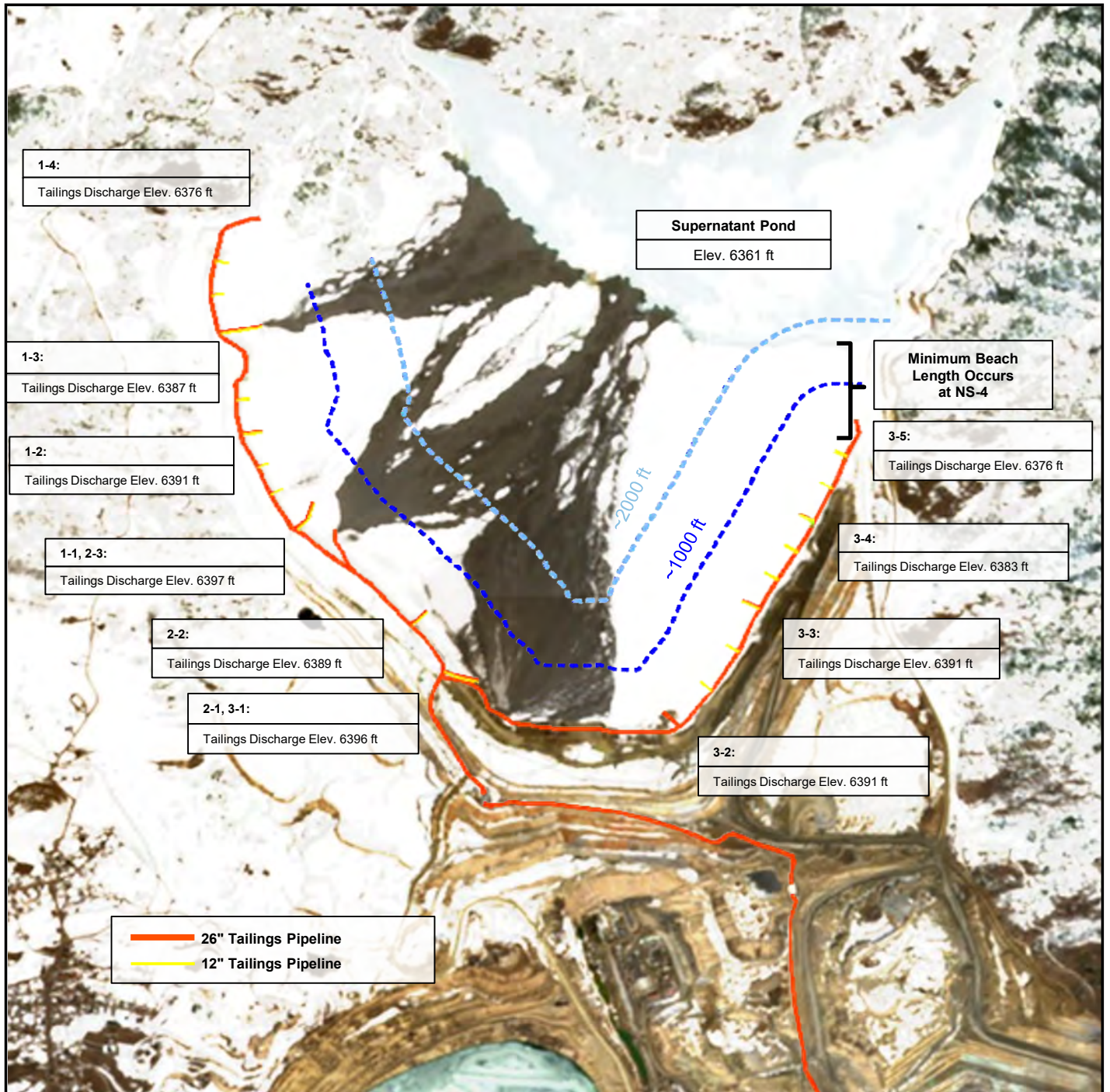


NOTES:

1. TAILINGS DISCHARGE AND SUPERNATANT POND ELEVATIONS WERE SURVEYED ON MARCH 2, 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 MARCH 1, 2023.

MONTANA RESOURCES, LLP.	
YANKEE DOODLE TAILINGS IMPOUNDMENT	
SENTINEL-2 SATELLITE IMAGERY TAILINGS BEACH ASSESSMENT MARCH 2, 2023	
	P/A NO. VA101-126/29
	REF. NO. VA23-00585
FIGURE A.2	
REV	0

0	2JUN'23	ISSUED WITH LETTER	ACC	RSD
REV	DATE	DESCRIPTION	PREP'D	RVV'D



NOTES:

1. TAILINGS DISCHARGE AND SUPERNATANT POND ELEVATIONS WERE SURVEYED ON APRIL 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 APRIL 10, 2023.

MONTANA RESOURCES, LLC.	
YANKEE DOODLE TAILINGS IMPOUNDMENT	
SENTINEL-2 SATELLITE IMAGERY TAILINGS BEACH ASSESSMENT APRIL 3, 2023	
Knight Piesold CONSULTING	P/A NO. VA101-126/29
	REF. NO. VA23-00585
FIGURE A.3	
REV 0	

0	2JUN'23	ISSUED WITH LETTER	ACC	RSD
REV	DATE	DESCRIPTION	PREP'D	RVV'D

Q1 2023 – YDTI QUARTERLY WATER DATA SUMMARY PHOTO LOG



PHOTO 1 – March 1, 2023 – Flow through HsB Weir.



PHOTO 2 – March 1, 2023 – Seep 10 Stilling Pond.

Q1 2023 – YDTI QUARTERLY WATER DATA SUMMARY PHOTO LOG



PHOTO 3 – March 1, 2023 – Seep 10 Weir and Staff Gauge, reading slightly below 0.4.



PHOTO 4 – March 1, 2023 – WED Extraction Pond and Dewatering System.